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and Children's Use of Language in
Play Interactions with Peers**

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Psychological Monographs: General and Applied

RELATIONS BETWEEN HOME EXPERIENCES AND
CHILDREN'S USE OF LANGUAGE IN PLAY
INTERACTIONS WITH PEERS¹

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THIS report describes a combination of two types of investigation: (a) a study of the relations between home experiences and children's social behavior in preschool groups, and (b) an exploration of preschool children's use of language and hostility to influence and adjust to age peers and teachers.

The ideas for both studies were derived from an investigation of preschool children's social behavior by Boyd R. McCandless and the present author (1957a, 1957b). Marshall and McCandless developed a method for recording social interactions among a group of preschool children that yielded quantitative measures of classifications of social behavior of individual children. These observation measures had correlations of greater magnitude with tests and adult judgments of child behavior than were obtained between the two latter estimates of behavior. These measures appeared to be suited for use as measures of children's social behavior in an investigation of the premise that home experiences are major determinants of the behavior of children away from home. The problem in planning this study was to find a basis for selection of home experience variables.

This study was planned during the period in the mid-1950s when failure to find relations was described in most reports of research about parent-child relations. Although Baldwin and coworkers (Baldwin, 1948, 1949; Baldwin, Kalhorn, & Breese, 1945) had reported evidence of relations in

the late 1940s, subsequent investigators, such as Sears, Whiting, Nowlis, and Sears (1953), Highberger (1955), and Burchinal, Hawkes, and Gardner (1957), were not so successful. Additionally, some of the parent measures that had related to child measures in the studies by Baldwin et al. did not relate to measures of children's behavior in Highberger's study. Such research literature, then, did not furnish an adequate basis for the selection of home experience variables for the proposed study. Other investigators have used psychology theories as a solution to this dilemma, but the two major theories were not relevant sources of clues for this investigation. Psychoanalytic theory offers many hypotheses about home determinants of "undesirable" behavior in children, but has little to say about "socially desirable" behavior, a characteristic of most of the child observation measures developed by Marshall and McCandless. Derivation of hypotheses from learning theory depends on specific situations, which in this instance were unknown. It appeared, then, that selection of parent variables for the present study could not be based on either evidence or theory.

The idea of exploratory study of social use of language was initiated by Marshall and McCandless' findings. Two measures of social interaction developed in that investigation were based on the frequency of the child's talk with peers. These two measures entered into larger correlations with estimates of social acceptance in the group than measures of social interaction that did not require the child to use language. This suggested that an exploration of children's use of language with peers and teachers might indicate social behavior important for

¹ The investigation reported in this paper was conducted in connection with a project of the Home Economics Department of the Kentucky Agricultural Experiment Station and is published by permission of the station Director.

children's participation and acceptance in a preschool group. Perusal of research literature indicated that few aspects of child development have been studied as intensively and by so many investigators as language development, but that most studies have been concerned with the development of vocabulary, sentence structure, grammatical usage, and articulation. Investigations of children's use of language to adapt to other environmental demands have been limited to (a) tests of Piaget's hypotheses that the child's response to the environment is egocentric (e.g., Fisher, 1934; McCarthy, 1930); and (b) studies of when and why children ask questions (e.g., Smith, 1933).

In this investigation it was necessary to develop classifications and measures to explore children's use of language. The assumption could not be made *a priori* that these measures and classifications were involved in influencing and adjusting to age peers and teachers. This claim had to be demonstrated through analyses of relations with measures of social interaction and social acceptance obtained concurrently in the preschool group. Measures of social interaction and social acceptance were proposed as child variables for the study of parent-child relations. Hence, the exploration of children's use of language and hostility to influence and adjust to peers required the child measures proposed for the study of parent-child relations.

The inclusion of use of language among child social behavior variables was desirable for the study of parent-child relations for an equally cogent reason. When language use became part of the social behavior to be studied, ample evidence became available on which to base the selection of parent and home experience variables. Relations between home experiences and the well studied aspects of language development have been demonstrated in many investigations conducted during almost all the years that child psychology has been a field of knowledge. Knowledge of these relations was extensive enough by 1940 to permit Dawe (1942) to conduct an experimental test of relations found in real life by other investigators. McCarthy (1954), in sum-

marizing these investigations, includes description of relations for the home experiences of: socioeconomic status of the family; education of parents; living in a family vs. institutionalization; travel; association with adults; and experience with words, books, pictures, and their real life counterparts.

The two possible studies were combined to produce this investigation of the relation of home experiences to children's use of language and hostility in play interactions of preschool groups. This study had three initial purposes:

1. To investigate preschool children's use of language and hostility to influence and to adjust to age peers
2. To study the relation of home experiences to children's social behavior with age peers in preschool groups
3. To investigate the relations between home experiences and children's dependence on teachers during child directed play in preschool groups

The first analyses to be performed were concerned with reliability and age differences for measures of use of language and hostility. The findings indicated that a dichotomy of classification for these new measures might consist of two opposite variables. Hence, a fourth purpose of this study became the delineation of these two variables: the use of dramatic play language and dramatic play hostility with peers, and the use of reality language and reality hostility in play with peers.

METHOD

Subjects

The subjects of this investigation were 108 children attending Kentucky preschools and both the mothers and fathers of 101 of these children. The age and sex division of the children is shown in Table 1. Data were not collected from parents of three girls and four boys in the 2½-3½ year group, because these children were added to the sample to enlarge that age group for analyses of age differences.

All children attended a morning preschool group of one of three schools: the Berea College Nursery School (one group), the Douglass Boulevard Christian Church Preschool in Louisville (three

TABLE 1
NUMBER OF CHILDREN IN EACH AGE AND
SEX GROUP

Age groups	Girls	Boys	Both sexes
2½-3½ years	7	9	16
3½-4½ years	17	18	35
4½-5½ years	18	17	35
5½-6½ years	7	15	22
All ages	49	59	108

groups), and the University of Kentucky Home Economics Nursery School (four groups).² The three schools were selected for their similarity in guidance policies, in buildings, equipment, and staff, and in the socioeconomic status of parents enrolling children. Guidance policies at all schools emphasized the importance of children directing their own play during most of the school day. All children had attended preschool for at least 6 weeks prior to observation, and most had attended preschool for more than a half year.

None of the families was below the professional-business managerial level in socioeconomic status, except the presently unclassifiable families of four college students. In other instances when the father's occupation was below this level, by reasons of income and inherited social position, the families could be classified at the socioeconomic level above the professional level. Most fathers were engaged in the professions. There were more medical doctors, dentists, lawyers, artists, and musicians in this majority than there were college professors. The mean education of fathers was a semester more than a bachelor's degree, and the mean education of mothers was a semester less than a bachelor's degree. This was true at all three preschools. Almost all families lived in houses they had built in preferred residential areas of Berea, Lexington, and Louisville. The child in the sample was the only child for 7 of the 101 families. Experience

with siblings of the subjects undoubtedly affected the experiences as parents and the attitudes of all other mothers and fathers.

Data were collected in the spring of 1957 for all children 3½ years of age or older, and their parents. Data were collected for only three children in the youngest age group at this time. In the 1957-58 academic year, data were collected for six children aged 2½ to 3½ years who were enrolled in two groups of the University of Kentucky nursery school, and for their parents. Data were collected at this school in the fall of 1958 for the seven children of this age whose parents were not interviewed. All data were collected by the author.

Measures

The measures of children's social behavior with peers in this investigation were of four kinds:

1. Observation measures of the number of social interactions, developed by Marshall and McCandless (1957b)

2. Observation measures of the frequency of use of language and hostility, developed in this investigation

3. Measures of aggression, submission, and dominance obtained by summations of the use of language and hostility scores

4. Scores on the picture sociometric test (McCandless & Marshall, 1957a), an estimate of social acceptance in the preschool group

Two tests administered to children as controls for the new measures of use of language and hostility were the Vocabulary test of the Stanford-Binet Test of Intelligence (Terman & Merrill, 1937), and the Lerner Blocking Technique No. 2 (Lerner, 1956), as scored for aggression by Otis and McCandless (1955).

There were two types of measures of children's dependence on teachers during preschool play:

1. Observation measures of the number of social interactions with teachers (Marshall & McCandless, 1957a)

2. Observation measures of the frequency of use of language and hostility between child and teachers, developed in this investigation

Measures of home experiences were obtained from interview information and tests, and were the following:

1. Measures of home experiences with the dramatic play topics of the preschool group, developed in this investigation

2. Time the child spent listening to stories and records and watching television

3. Time spent in talk with the child by family members and maids

4. Education of both parents

5. Scores of both parents on 24 scales and 5 composite scales of the Parental Attitude Research Instrument (Schaefer & Bell, 1955, 1958)

² The assistance and cooperation of these schools in permitting and facilitating data collection is appreciated. The Directors of the three preschools studied in the spring of 1957, who contributed much time to this investigation, were Virginia S. Chance of Louisville, Opal Wolford of Berea, and Billie K. Cope of Lexington. The following teachers of the preschool groups also gave assistance: at Berea College, Angli Wai; at the Louisville school, Lucille Filson, Chris Inman, Mary Lois Koenig, Rubye McDowell, and Donna Vick; at the University of Kentucky, Joann Atcher, Hazleen Brewster, Rohini Doshi, Rachel C. Graves, Jean G. Hobart, and Hazel McCrary.

A detailed description of these measures, in the order listed above, is presented after the general description of child observation procedures that follows.

Each child was observed in child directed play in the preschool group for a minimum of 100 minutes, or for 50 2-minute time sample records. Child directed play was defined as follows: the children initiate and carry out all play ideas, activities, and solutions, and there is the barest minimum of social interaction with teachers. Observations were spaced over 3-5 weeks so that no more than 10 minutes of play per day was recorded for any child.

The time sample record of behavior was an elaboration of the method for group observation of children's play developed by Marshall and McCandless (1957b). In this method, the observer records the number and type of social interactions that occur in 2 minutes among the several children playing together or near each other at the beginning of the record and any other children or adults who may approach these children. Children's names are written in diamonds printed on the record form. Each side of the diamond represents a behavior classification. Social interactions are recorded by lines drawn between the appropriate sides of the diamonds for two or more persons.

Interactions between Children. In the Marshall and McCandless method, interactions between children are recorded in the following four classifications:

1. Association—when children seem aware of a common interest, activity, or goal (most dramatic play can be classified as association)
2. Friendly approach or response—the use of neutral, pleasant, friendly, or helpful words to approach or respond to another person
3. Conversation—the continuation of a friendly approach for at least a half minute of the 2-minute record
4. Hostile—any approach or response that interferes with the activity of another, attacks another, or is a judged withdrawal from another person

The measures obtained from the records are the mean number of children per 2-minute record with whom the child had that category of interaction. An overall measure of friendly behavior is the sum of the measures in the three friendly classifications, all friendly interactions.

Use of Language and Hostility. Children's use of language and hostility with peers and teachers was recorded at the same time as interactions with peers and teachers. The record consisted of symbols written in the child's diamond for any classifications of language and hostility that were used during the 2 minutes of observation.

The classifications developed for this investigation were based on two sources. The investigator's experience in collecting observation records of children's play and her experience as a nursery school teacher suggested that preschool children's use of language and hostility during *dramatic play*

differed from their use of language and hostility when they talked as themselves and were concerned with *reality*. This distinction was developed into the dramatic play and reality dichotomy of this investigation. The other categories were developed through trial-and-error observation of children's use of language during preschool play. The selected categories of suggestion, imitation, agreement, greeting, and question, could be discriminated in observing children's play, and appeared to include all language use between children.

The dramatic play and reality distinction for use of language and hostility was made at the time of recording of any and all other categories of use of language and hostility. When the child was engaged in dramatic or imaginative play and spoke in character, as if he were the person, animal, or thing he was attempting to represent, this behavior was classified as dramatic play or "role" use of language and hostility. Role use of language was recorded for the child by placing an "R" with the symbol for the other classification of that language use on the friendly side of the diamond representing that child on the record form. When the child talked as himself, this behavior was classified as reality or "self" use of language. Self use of language was recorded for the child by placing an S with the symbol for the other classification of that language use on the friendly side of the diamond for that child.

Use of any of the other five categories at least once during the 2 minutes sampled was recorded in the child's diamond by the capital of the initial letter of the category name with the appropriate symbol (R or S) for the dramatic play—reality distinction. Definitions of these categories are as follows:

Suggestion (S)—the child uses language to suggest an idea or activity for self or others

Imitation (I)—the child imitates the words or sounds originated by another child

Agreement (A)—the child uses language to agree with or to follow the suggestion of another person

Greeting (G)—the child greets, welcomes, or pays attention to in a "just noticing" way (or returns such a greeting to) someone not present, not noticed, or not sharing play in the immediately preceding time

Question (Q)—the child asks a question of another

The use of language records could be and was tabulated separately for each of the three friendly interaction categories. Measures used in reporting results, that are not identified by the name of the interaction category, are those tabulated for the friendly approach interactions. Measures of the six classifications of dramatic play and reality suggestion, imitation, and agreement are the percentage of 50 or more observation records in which the behavior was recorded and a friendly approach interaction between children was recorded also. Measures of dramatic play and reality greeting and

question include behavior toward both peers and teachers. They are the percentage of 50 or more observation records in which the behavior was recorded between children or between teachers.

Use of language during association and conversation interactions is identified by the name of the interaction category. Association dramatic play and reality suggestion, imitation, and agreement measures are the percentage of observation records in which both an association interaction and the use of language of the particular category were recorded. Conversation dramatic play and reality suggestion, imitation, and agreement are the percentage of observation records in which both a conversation interaction and the use of language of the particular category were recorded.

The only elaboration of the hostile interaction category of the Marshall-McCandless method was a distinction between hostility in dramatic play and in reality play. Hostile language was not recorded in any other way. Children were judged to show dramatic play hostility when they shot others dead, when they said, "You Indians, get out of our fort!" or "Daddy, that's not the way to feed the baby," and whenever the expression of hostility carried out their role in dramatic play. The expression was classified as reality hostility when the child's behavior was in his own behalf. For example, Mark showed reality hostility when he grabbed and shook the handlebars of the tricycle Judy rode. Judy's response, "This is *my* tricycle!" also showed reality hostility. Dramatic play and reality hostility were recorded by placing an R or an S, respectively, on the hostile side of the child's diamond. The measures of dramatic play and reality hostility are the percentage of observation records in which the behavior was recorded and a hostile interaction between children was recorded, also.

Aggression, Submission, and Dominance. The measures of children's aggression, submission, and dominance were obtained by adding the appropriate use of language and hostility measures. The definitions of these measures by words and by the parts summed are as follows:

Positive Aggression—the frequency of friendly suggestion, or the sum of the percentages for dramatic play suggestion and reality suggestion

Submission—the frequency of imitation and agreement, or the sum of the percentages for dramatic play imitation and agreement and reality imitation and agreement

Aggression—the frequency of hostility and suggestion, or the sum of the percentages for dramatic play hostility and suggestion and reality hostility and suggestion

Dominance—the difference in frequency of aggression and submission, or the sum of the percentages obtained for submission subtracted from the sum of the percentages obtained for aggression

Reliability of Child Observation Measures. Reliability between observers was established between the investigator and a Director of the University of Kentucky nursery school, Billie K. Cope, for

the elaborated observation records. Agreement of 92% of the entries was obtained for 10 consecutive records, after a practice period of about 50 records.

Reliability over time for play observation measures was determined twice for two consecutive 2-week periods. Fifty or more 2-minute records were collected per child for the nursery school group of 11 children, aged 35 to 58 months, observed in 1957. Only 35 or more records were collected in each observation period for the nursery school group of 12 children of the same age range observed in 1958. Product-moment correlations between observation periods in both years are presented in Table 2 for scores of use of language and hostility and of play interaction among children.

Reliability over time characterized dramatic play use of language and hostility, but was not found for reality use of language and hostility, as is shown in Table 2. The r 's listed for dramatic play use are large enough to indicate fairly high reliability between observation periods for both groups. The small r 's listed for reality use indicate low reliability over time. The 1958 reliability observations were conducted to check this finding of change with time in reality use of language and hostility for the 1957 group.

Correlations listed for the play interaction scores are as high as those reported by Marshall and McCandless (1957b).

Correlations between observation periods for the association and conversation use of language and hostility scores were computed only for the 1957 group and are not listed in Table 2. Sizes of r 's

TABLE 2

PRODUCT-MOMENT CORRELATIONS OBTAINED FOR TWO DIFFERENT PRESCHOOL GROUPS TO INDICATE THE RELIABILITY OF CHILD OBSERVATION MEASURES OVER THE TIME SPAN OF CONSECUTIVE TWO-WEEK OBSERVATION PERIODS

Child observation measures	1957 group ($N = 11$)	1958 group ($N = 12$)
Dramatic play language:		
Suggestion	.84	.96
Imitation	.49	.90
Agreement	.81	.85
Hostility	.77	.76
Reality language:		
Suggestion	.55	.04
Agreement	.47	.29
Hostility	.11	.23
Social interaction:		
Association	.89	.85
Friendly approach	.74	.91
Conversation	.61	.85
Hostile	.86	.64

resembled those listed in Table 2 for the friendly approach measure in all instances.

Marked change with time was indicated for between period correlations for reality greeting (.27) and reality question (.05) in the 1957 group. There were too few observed instances to determine comparable reliability for dramatic play greeting and question.

Social Acceptance. Social acceptance measures were scores on the picture sociometric test, described by McCandless and Marshall (1957a). This was the first of three tests administered individually to each child during the final week of play observation in the preschool group. In this test, each child chooses at least three preferred playmates for each of three situations from individual photographs of all children in the group. The sociometric score is based on points assigned choices of all children in the group and is an estimate of the child's popularity within the group.

Tests of Vocabulary and Aggression. The child's score on the Vocabulary test of Form L of the 1937 Revision of the Stanford-Binet Test of Intelligence was expressed as vocabulary age in months. This test followed the sociometric test for all children.

The test for aggression consisted of three units from the Lerner Blocking Technique No. 2 (Lerner, 1956), as adapted and scored for frequency of aggression and submission by Otis and McCandless (1955). The child was given three trials of each of the structured doll-play situations of, in order of administration, "How can I pass?" "My doll stops your car," and "Who gets there first?" The aggression score is the sum of degree of aggression points awarded to each response; high scores indicate more frequent and intense aggression responses.

Submission scores were not used in analyses because only 62 of the child subjects of this investigation made any responses that could be classified as submissive rather than as aggressive. The infrequency of submission can be interpreted as indicating freedom from anxiety about aggression in this test situation. For several weeks the children had seen the investigator observe and do nothing about the aggression occurring in their play.

The test of aggression was the last of the three tests given to each child. Frustrations of this test were forgotten as the child selected a toy from an assortment of dime toys as a reward for "playing the games."

Dependence on Teachers. The frequency of child-adult interactions in preschool play can be used as a measure of the child's dependence on adults, as has been described by Marshall and McCandless (1957a). Interactions between children and teachers were recorded in the same way as child-child interactions during the observations for this study. Friendly dependence measures are the mean number of all friendly interactions between the child and teachers per observation record.

Hostile dependence measures are the mean number of hostile interactions between the child and teachers per observation record.

Use of language and hostility between children and teachers was recorded in the same way and for the same categories as use of language and hostility among children. When a friendly approach interaction line was drawn between the diamonds for the child and teacher, the use of language and hostility by the teacher during that record was tabulated as "from teacher to child," and the use of language by the child during that record was tabulated as "from child to teacher." Hence a distinction of direction was added for analyses of use of language and hostility between children and teachers. Measures for dependence use of language and hostility are the percentage of observation records in which the behavior was recorded. A friendly approach or a hostile interaction line between the child and teacher was recorded also.

Reliability over time was determined for two measures of dependence use of language. In a group of 11 children, scores for reality suggestion from child to teacher obtained during 2 weeks of observation had an r of .69 with the scores for this kind of dependence obtained from the next 2 weeks of observation. Scores for reality agreement by child with teacher from each time period had an r of .60. Both r 's indicate fairly high reliability over time for these measures, a characteristic not found for use of reality language with peers.

Parent Interviews. Both parents of 101 child subjects were interviewed individually or together at the preschool, at the home of the parents, or, in a few instances, by telephone. Face-to-face interviews could not be arranged with 11 fathers, so their interviews were conducted by telephone. Parents were interviewed in the time period after two-thirds of the play observations in the preschool group had been completed, and within 2 weeks after the completion of the play observations. Interviews required half an hour to 2 hours of time, depending on the parents' desire to talk. Answers to interview questions usually required only 15 to 20 minutes. The interview blank of one mother was lost in the travel transfers of data.

Parents' answers to interview questions were recorded as completely as possible. Answers known to be useful, such as time spent by the child at various activities, were recorded verbatim. Interview questions were mimeographed in the form presented in Appendix A.

Home Experiences with Dramatic Play Topics. The content of the children's dramatic play during each observed 2 minutes was described briefly on the record form. After at least two-thirds of the 50 observation records for all children in the group had been completed, the dramatic play topics of all children were tabulated. The resulting list of the preschool group's dramatic play topics was the basis of a check list in the interviews for the parents of that group. For each dramatic play

topic, the parent was asked to check home experiences that could have served as a source of information about the play topic for his child. The list of topics for one preschool group is presented on the check sheet in Appendix A. The list of dramatic play topics in all preschool groups observed in the spring of 1957 is presented in the first section describing results.

Home experience scores derived from these check lists were the percentage of the number of dramatic play topics of the particular preschool group that were checked by either or both the father and mother. Replies were adequate for percentage scores of the eight home experiences that follow.

1. Talk with father. The father had talked with the child about the topic (checked only by the father).

2. Talk with mother. The mother had talked with the child about the topic (checked only by the mother).

3. Books and stories. The child had picture books and/or had listened to stories about the topic.

4. Story and music records. The child had music or story records about the topic.

5. Television. The child was known to have watched television programs about the topic.

6. Personal experience. The child had seen real counterparts of the persons, objects, and situations of the topic.

7. Talk of other adults. The child was known to have talked about the topic with adults other than parents and preschool teachers, such as grandparents and other relatives, the maid, and adult friends and visitors.

8. Talk with children. The child was known to have talked about the topic with children other than those in the preschool group, such as siblings or neighborhood playmates.

One source of information, movies, was not used as a home experience because parents checked that only 16 girls and 34 boys had attended movies concerned with dramatic play topics. The score for varied home experiences with the dramatic play topics was the percentage of play topics for which parents had checked four or more home experiences as providing information. It was titled "Four or more checked."

Time for Stories, Records, and Television. Reports by parents of the time the child spent listening to stories and records and watching television furnished three measures:

1. Minutes of story, expressed as daily minutes the child listened to a story.

2. Minutes of records, expressed as daily minutes the child listened to records. Most parents said their child had spurts of listening to records, rather than a regular daily pattern. This time was the parents' average of the spurts of listening time.

3. Minutes of television, expressed as daily minutes the child paid attention to television programs.

Time Talking with Family Members and Maids. Four estimates of the time spent talking with family members and the maid were derived from the parent interviews.

1. Father's time talking, expressed as weekly hours of talking to and with the child. This is the time the father reported as spent in talk with the child, individually or jointly with other family members, in all daily and weekly activities.

2. Mother's time talking, expressed as weekly hours of talking to and with the child. This is the time the mother reported as spent in talk with the child, individually or jointly with other family members, in all daily and weekly activities.

3. Siblings' time talking, expressed as daily hours of talking with the child. This is the time either or both parents reported as usually spent by the child in talk with older and/or younger siblings each day, at all activities.

4. Maid's time talking, expressed as weekly hours of talking with the child. This time includes that for baby sitters as well as the usual Negro maid of families of this economic level in Kentucky. This is the time either or both parents reported that the maid and/or baby sitter spent in talk with the child during a usual week.

Education of Parents. The number of school years completed was the measure of the education of fathers and mothers.

Parent Attitudes. Parents were asked to agree or disagree, strongly or mildly, with the items expressing "attitudes contrary to the usually approved child-rearing opinions" of the Parental Attitude Research Instrument (PARI) developed by Schaefer and Bell (1958, p. 346). Sixty mothers completed the PARI at meetings of preschool mothers' groups. All fathers and the remaining mothers answered the PARI at home, after instructions to avoid discussion of items with their spouses until both had completed the PARI. One hundred mothers and 93 fathers completed the PARI, all but 12 doing so in the time interval between the initiation of preschool observations and the parent interview. The mother and eight fathers not completing the PARI were willing to be interviewed, but refused to do this test. All parents complained about the PARI during the parent interview. Complaints tended to emphasize the discourtesy of requesting individuals of their educational attainment to agree or disagree with the loosely worded sentences of faulty construction that they found in the test.

The form of the PARI used in this study was that presented in the Iowa Parent Practices Research Scales for Fathers and Mothers by Chantiny, Lovell, and McCandless (1956). This selection includes 24 five-item scales. For each item, four points were given for a parental check of strong agreement, three points for mild agreement, two points for mild disagreement, and one point for strong disagreement. The scores for each scale range from 5 to 20 points.

Five composite scales, described by Shaefer and Bell (1955) as five factors in the factorial structure for the normative study, were used in addition to the 24 scales. The scores for the composite scales are the sum of the points for each scale included in the composite scale, listed below.

1. Suppression and Distance (7 scales): Avoidance of communication, Suppression of sexuality, Ascendancy of parent, Encouraging verbalization (inverted), Approval of activity (inverted), Comradeship and sharing (inverted), and Autonomy (inverted).

2. Unhappiness at Home (titled "Rejection of homemaking role" by Schaefer and Bell) (5 scales): Encouraging verbalization, Approval of activity, Marital conflict, Irritability, and Rejection of homemaking role.

3. Demand for Striving (5 scales): Breaking the will, Strictness, Deification of parent, Approval of activity, and Excluding outside influences.

4. Overpossessiveness (5 scales): Suppression of aggression, Suppression of sexuality, Intrusiveness, Fostering dependence, and Harsh punishment (inverted).

5. Harsh Punitive Control (8 scales): Breaking the will, Strictness, Deification of parent, Harsh punishment, Excluding outside influences, Irritability, Seclusiveness of parent, and Ascendancy of parent.

Five scales included by Schaefer and Bell in these composite scales, but not included in the Iowa selection were as follows: Ignoring the baby, in 1 and 2; Abdication of parental role, in 2; Acceleration of development, in 3; Martyrdom, in 3 and 4; and Infantilization, in 4. Five scales included in this study that did not enter into the factorial structure described by Schaefer and Bell were Equalitarianism, Deceit of the child, Expressing love and affection, Considerateness of spouse, and a scale called Dependence of mother for the mothers' version that is more appropriately titled Disapproval of ascendancy of mother in the fathers' version.

RESULTS

Developmental Characteristics of Child Social Behavior Measures

This investigation explored preschool children's use of language and hostility during child directed play in preschool groups. Dramatic play, the acting out of the real and imaginary scenes of life encountered by children, is a frequent characteristic of this play and was used in this study as the basis of one classification of use of language and hostility. The list of dramatic play topics for the preschool groups of this study is, then, a definition as well as a finding.

Eight dramatic play topics were played sometimes or often in all five preschool groups observed in the spring of 1957. These were the following, in the order of frequency of occurrence within groups:

- House and family
- Cowboy or "western" lore
- House construction
- Road construction
- Animals that crawl and growl
- Doctor and nurse
- Trains
- Modern police

The western scenes resembled television westerns in which people, rather than animals, are shot. The police sired around on tricycle squad cars or directed traffic. The animals that crawled and growled and acted as bears are supposed to act were seldom bears in name; instead in the various groups these animals were called tigers, wolves, wildcats, crocodiles, lions, hound dogs, rabbits, donkeys, and even whales.

Dramatic play topics recorded in two to four of the groups observed were the following, also in the order of frequency within groups:

- Automobiles, garages, and gas stations
- Parties and weddings
- Tunnels in mountains
- Grocery store
- Boats and water travel
- Airplanes and airports
- Construction of castles and bridges
- Fire engines and fires
- Death
- Getting and counting money
- Zoos and cages
- Basketball games
- Witches
- Dynamiting
- Swimming
- Putting on a play

The following were observed as dramatic play topics in only one group:

- Modern warfare
- Sunday school
- Island in the ocean
- Boss of the job
- Santa Claus
- Farming
- Photography
- Water skiing
- Caves
- Priest

As these lists make evident, only night life and a few adult privileges and responsibili-

ties escaped the scope of the play of these children. Geography was not excluded; play was usually located by some domestic or foreign place name.

When the children spoke or showed hostility in acting out a role dealing with any of the listed topics, this behavior was classified as dramatic play use of language and hostility. All other use of language and hostility was classified as reality use.

Dramatic Play and Reality Use of Language and Hostility

The mean percentage of observation records in which categories of dramatic play and reality use of language occurred for each age and sex group is shown in the figures presented in this section. All figures are drawn on the same scale, with 60% as the largest percentage.

Dramatic play and reality suggestion and agreement, shown in Figure 1, were the most frequent uses of language. The resemblance between dramatic play and reality use of suggestion and agreement is limited to that statement, however.

Dramatic play use of suggestion and agreement increased as the age of the child increased, as is shown in Figures 1a and 1b, while reality use of suggestion and agreement failed to change with age, as is shown in Figures 1c and 1d. These findings indicate that increased use of language in dramatic play accounts for children's greater talkativeness with peers as age increases, and that reality use of language is relatively unimportant in this increased use of language. This difference in the effect of age, and the difference in reliability reported in the methods section, were the first indicators in this investigation that language and hostility used in dramatic play and used in reality talk as self might be new and opposite variables.

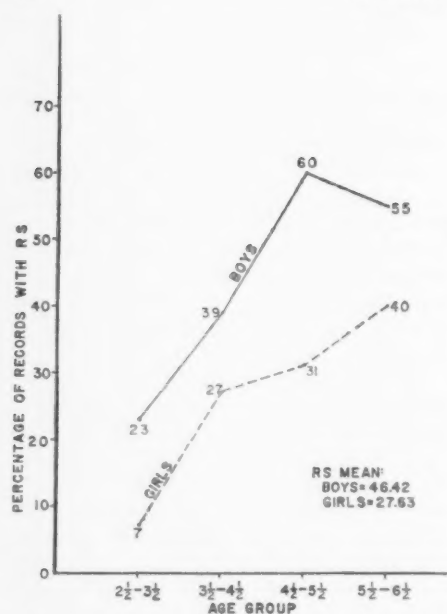
Children's dramatic play often is described as a fantasy activity that expresses individual wishes and desires. The developmental difference for dramatic play use of language is not in agreement with the idea of expression of individual wishes and desires.

Within the past 5 years, Harris (1957) claimed as a new discovery the idea that some behavior of children does not change with age. The reality suggestion and agreement data are in line with this idea, which is still too new to have further assessment of meaning. Hence, differences in other relations between the developmental use of language, dramatic play use, and the reality use of language, unaffected by age, may elucidate differences in behavior affected and not affected by the increasing age of the child.

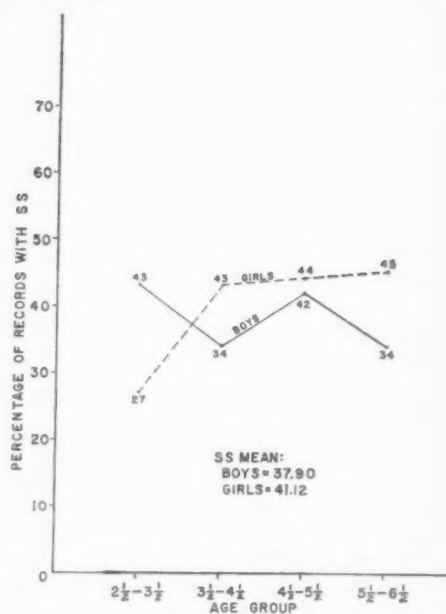
Age increases in the frequency of use of dramatic play suggestion and agreement were significant beyond the .001 level in factorial design age by sex analyses of variance. Age differences in frequency of reality suggestion were not significant. Differences in use of reality agreement were not significant between the three elder age groups. The youngest children, those aged $2\frac{1}{2}$ - $3\frac{1}{2}$ years, used agreement less (.01 level) when they talked as themselves than the three older age groups.

Boys used dramatic play language more frequently than girls, but sex differences in use of reality language either did not exist (suggestion), or were in the opposite direction (agreement), as is shown in Figure 1. The effect of age is shown to be about the same for boys and girls. The sex difference favoring boys was significant beyond the .001 level for both dramatic play suggestion and agreement. Girls' use of reality agreement differed at the .05 level from that of boys. The age-sex interaction was nonsignificant for measures in both classifications.

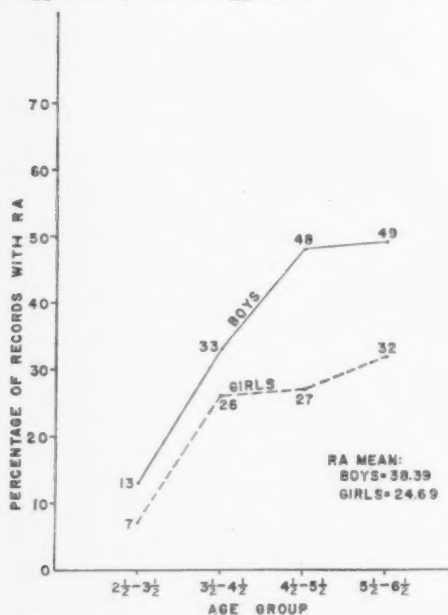
Large individual differences in the frequency of use of both dramatic play and reality suggestion and agreement were found in all age and sex groups, as is shown in Table 3. One boy in the $4\frac{1}{2}$ - $5\frac{1}{2}$ year group made dramatic play suggestions in 86% of the observations, and obviously was engaged in dramatic play during most of the observation time. No dramatic play use of language was recorded for one girl in the $3\frac{1}{2}$ - $4\frac{1}{2}$ year group. Similar ranges occurred for children's use of reality suggestion and agreement with other children. There were only four zero percentages for



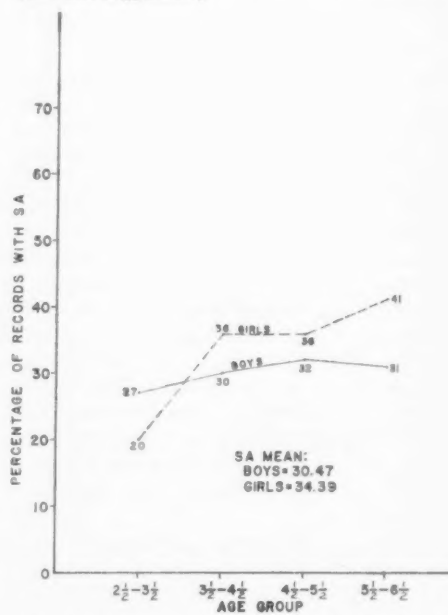
1a. Mean frequency of use of dramatic play suggestion. (RS=role suggestion.)



1c. Mean frequency of use of reality suggestion. (SS=self-suggestion.)



1b. Mean frequency of use of dramatic play agreement. (RA=role agreement.)



1d. Mean frequency of use of reality agreement. (SA=self-agreement.)

FIG. 1. The mean percentage of observation records in which dramatic play and reality suggestion and agreement were used in eight age and sex groups.

TABLE 3

STANDARD DEVIATION AND RANGE OF THE PERCENTAGE OF OBSERVATION RECORDS IN WHICH DRAMATIC PLAY AND REALITY SUGGESTION AND AGREEMENT WERE USED IN EACH AGE AND SEX GROUP

Age and sex groups	Dramatic play				Reality			
	Suggestion		Agreement		Suggestion		Agreement	
	SD	Range	SD	Range	SD	Range	SD	Range
2½-3½ year								
girls	6.6	0-19	4.8	2-16	8.7	18-45	3.6	16-26
boys	16.5	5-59	7.3	1-22	22.7	14-78	15.8	19-43
3½-4½ year								
girls	18.9	0-71	14.0	0-53	15.9	0-60	9.6	12-50
boys	23.7	3-66	18.9	6-57	17.5	2-67	11.4	11-45
4½-5½ year								
girls	16.6	7-68	11.8	10-43	18.8	10-78	13.5	12-57
boys	15.2	30-86	13.4	22-75	11.2	23-61	8.0	21-47
5½-6½ year								
girls	11.1	19-57	10.7	10-45	6.0	35-52	4.6	35-50
boys	13.5	18-76	12.0	28-70	10.7	23-56	6.7	17-44

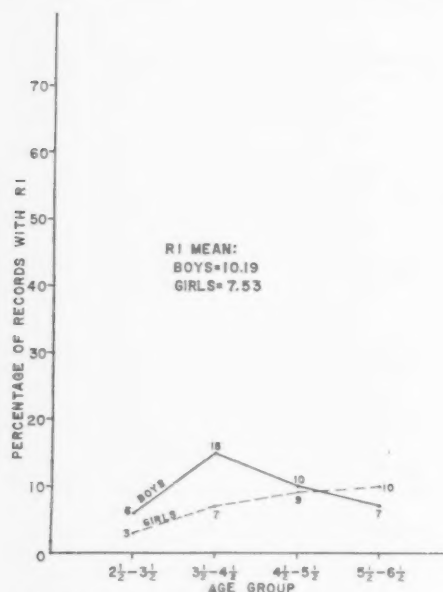
these measures, however. Three zero scores were for the girl just mentioned, and the other was for dramatic play suggestion by a girl in the youngest age group.

Imitation of the words and sounds of other children was not a frequent behavior of the observed children, as is shown in Figure 2. Six girls and one boy failed to use any imitative language in dramatic play during the observation periods. Ten girls and 20 boys, scattered through all age groups, did not use any imitative language in talking as themselves with other children. The slightly larger percentage of imitation for children aged 3½-4½ years, shown in Figure 2, was significantly larger (.01 level) only for reality imitation in analysis of variance tests.

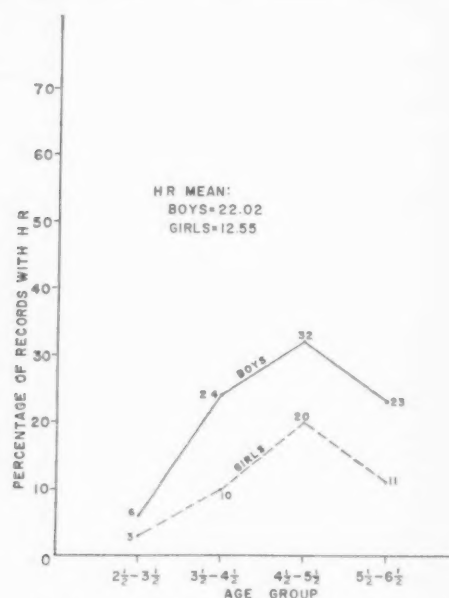
Use of dramatic play hostility resembled use of dramatic play language in the characteristic of increasing in frequency with age, while use of reality hostility resembled use of reality language in the characteristic of little or no change with age, as is shown in Figure 3. When friendly and hostile behavior, given the additional classification of dramatic play or reality behavior, do not differ in relations with another variable, age

in this instance, the additional classification can be described as broader in scope than the friendly-hostile dichotomy. These data add the descriptive word "general" to the previously suggested possibilities of "new" and "opposite" for the dramatic play and reality classifications.

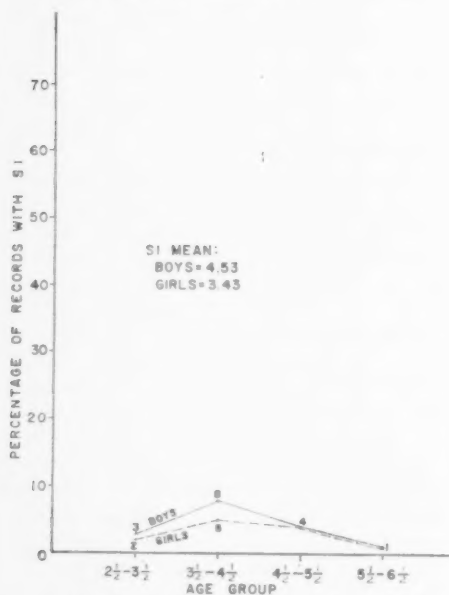
The age group differences in frequency of dramatic play hostility were significant beyond the .001 level in analysis of variance tests, while the frequency of reality hostility did not differ significantly in the four age groups. Somewhat surprisingly, then, the high level of reality hostility for 4½-5½ year boys, shown in Figure 3, did not differ statistically from the levels of the other age and sex groups. The similarity of mean percentages for other age and sex groups obviously served to counterbalance this single age and sex group deviation in the analysis of variance tests. Although all age and sex groups were equally variable by Bartlett's test, the standard deviation for the 4½-5½ year boys, shown in Table 4, suggests that boys in this group varied less from their unusually high mean occurrence of reality hostility than boys in other age groups.



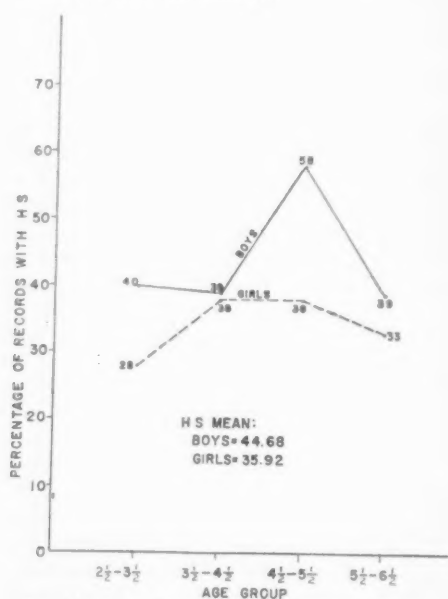
2a. Mean frequency of use of dramatic play imitation. (RI=role imitation.)



3a. Mean frequency of use of dramatic play hostility. (HR=role hostility.)



2b. Mean frequency of use of reality imitation. (SI=self-imitation.)



3b. Mean frequency of use of reality hostility. (HS=self-hostility.)

FIG. 2. The mean percentage of observation records in which dramatic play and reality imitation were used in eight age and sex groups.

FIG. 3. The mean percentage of observation records in which dramatic play and reality hostility were used in eight age and sex groups.

Boys used both classifications of hostility more frequently with other children than girls. This finding agrees with results of all studies of aggressive behavior of pre-school children. The sex difference was significant at the .001 level for dramatic play hostility, and at the .025 level for reality hostility in analysis of variance tests.

Reality hostility was used more frequently than dramatic play hostility in all age and sex groups, as is shown in Figure 3, a difference not found for language use. The relative proportions of reality and dramatic play hostility, respectively, were two to one for boys and three to one for girls.

Individual differences in frequency of use of reality hostility covered almost all the percentage range, but a narrower range was found for the less frequent use of dramatic play hostility, as is shown in Table 4. The upper range extremes for reality hostility of 92-97% indicate that it was a rare 2 minutes for one girl and several boys past $3\frac{1}{2}$ years of age when they did not show reality hostility to other children. The lower range extreme was 4% occurrence for a girl and a boy in the $3\frac{1}{2}$ - $4\frac{1}{2}$ year groups; it was an unusual 2 minutes for these two children when they used reality hostility with peers. There were no children who failed to show reality hostility, but some children did not use dramatic play hostility. No dramatic play hostility was observed for four boys and four girls in the youngest

age group, and for one girl in the oldest age group.

Children's use of language to greet, or to say, "Hello," to other children and adults, was predominantly in talk as themselves rather than in dramatic play. Reality recognition of the presence of others occurred in about one-fifth of the observation records for all age and sex groups, as is shown in Figure 4a, while dramatic play use of greeting occurred in fewer than 6% of the records for any age or sex group.

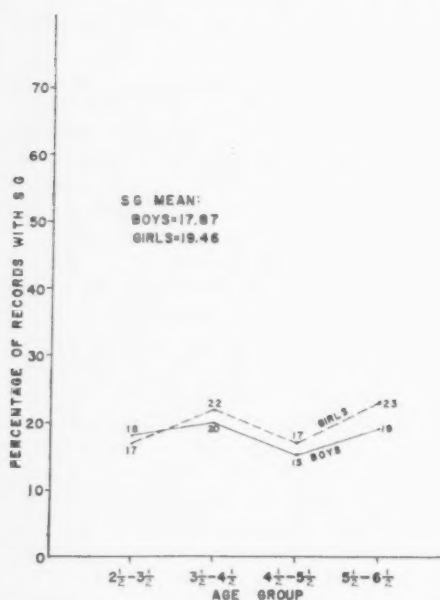
Relations with age and sex for use of greeting in the reality and dramatic play classifications resembled those found for these classifications of hostility and other language use. Frequency of use of reality greeting did not change with age and sex group, in analysis of variance tests, but use of dramatic play greeting increased with age (.005 level), and was more frequent for boys (.005 level).

Children asked twice as many reality questions of children and adults as dramatic play questions. The percentages for occurrence of reality questions, shown in Figure 4b, agree with the findings on frequency of questions reported by Day (1932), Davis (1937), McCarthy (1930), and Smith (1933). Questions constituted 10-15% of the children's responses in these studies. The basis of the percentages presented in Figure 4b is number of 2-minute records rather than number of responses, however. Analy-

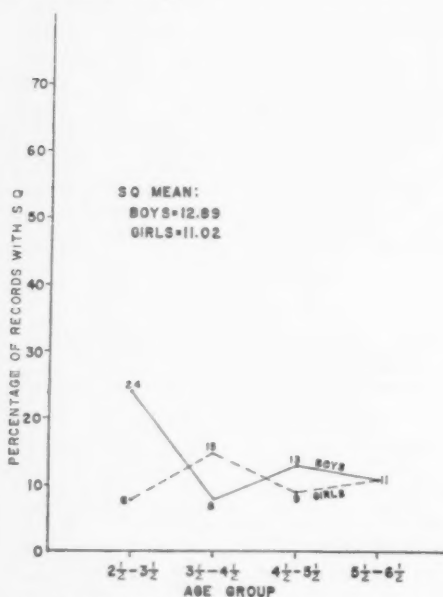
TABLE 4

STANDARD DEVIATION AND RANGE OF THE PERCENTAGE OF OBSERVATION RECORDS IN WHICH
DRAMATIC PLAY AND REALITY HOSTILITY WERE USED IN EACH AGE AND SEX GROUP

Age group	Dramatic play hostility				Reality hostility			
	Girls		Boys		Girls		Boys	
	SD	Range	SD	Range	SD	Range	SD	Range
2 $\frac{1}{2}$ -3 $\frac{1}{2}$ years	3.73	0-9	7.12	0-22	13.74	7-46	21.49	10-73
3 $\frac{1}{2}$ -4 $\frac{1}{2}$ years	7.81	0-23	16.07	0-61	21.06	4-92	19.24	4-87
4 $\frac{1}{2}$ -5 $\frac{1}{2}$ years	22.61	0-81	12.49	16-58	14.86	9-59	15.35	34-94
5 $\frac{1}{2}$ -6 $\frac{1}{2}$ years	6.24	0-22	10.05	8-40	14.52	12-52	17.81	19-93



4a. Mean frequency of use of reality greeting.
(SG=self-greeting.)



4b. Mean frequency of use of reality question.
(SQ=self-question.)

FIG. 4. The mean percentage of observation records in which reality greeting and question were used in eight age and sex groups.

sis of variance and *t* tests for reality questions indicated the only age and sex difference to be that 2½-3½ year boys asked more reality questions (.005 level) than any other age and sex group.

Dramatic play questions were asked in a mean of 6% or fewer records in all age and sex groups, and were not asked at all by 12 boys and 24 girls. Frequency of dramatic play questions increased with age (.005 level) and was greater for boys (.005 level) by analysis of variance tests.

The preceding description of frequency of use of the various categories of language has been limited to children's use of language during friendly approach interactions. Comparable data on frequency of association use of language and conversation use of language are not presented here. Friendly approach use of language with peers related closely to association use of language and to conversation use of language, as is shown in Table 5. Use of dramatic play suggestion in all three social interaction categories was almost identical. This degree of resemblance was greater (.01 and .05 level) than found for use of either reality suggestion or reality agreement during all three types of social interaction. Nevertheless, the *r*'s for reality use of language are both large and significant. These data suggest that

TABLE 5
INTERRELATIONS OF ASSOCIATION, FRIENDLY
APPROACH, AND CONVERSATION INTERACTION
USE OF LANGUAGE AS SHOWN IN AVERAGE
CORRELATIONS FOR THE AGE GROUPS OF
GIRLS AND BOYS

Interactions correlated	Dramatic play suggestion	Reality suggestion	Reality agreement
Association and friendly approach	.96*	.75*	.77*
Association and conversation	.98*	.87*	.85*
Friendly approach and conversation	.94*	.83*	.83*
	.86*	.77*	.68*
	.95*	.79*	.74*
	.86*	.73*	.60*

Note.—Boys' average *r*'s in italics.

* Significant at .01 level.

distinction of use of language according to the friendly interaction category in which it is used, results in relatively similar measures for each child in each interaction category.

Aggression, Submission, and Dominance

The scores for positive aggression, submission, aggression, and dominance were defined as combinations of measures in the dramatic play and reality classifications. The findings presented in earlier parts of this section suggest that these scores combine measures of different variables, and that relations between these scores and the age and sex of the child will depend on the relative proportions of dramatic play and reality measures in the combined score.

Age differences for the combined scores were limited to a difference for one age group, $4\frac{1}{2}$ - $5\frac{1}{2}$ year boys and girls, and to the scores that included measures of hostility. Children aged $4\frac{1}{2}$ - $5\frac{1}{2}$ years showed more aggression and dominance than children of other ages. As was shown earlier in Figure

3, this age group had higher percentages of use of both dramatic play hostility and reality hostility than other age groups. Both classifications of hostility were combined with use of language measures in aggression and dominance scores. No age differences were found in analysis of variance tests for the scores that combined only use of language measures, positive aggression, and submission.

All four combined scores were larger for boys than for girls. As has been reported, boys had higher percentages than girls for use of dramatic play language and of both dramatic play and reality hostility.

Social Interactions with Children

Interactions between children were the necessary basis for use of language and hostility with other children. The mean number of interactions in 2 minutes for each age and sex group is shown for the friendly approach and hostile categories in Figure 5, and for the association and conversation categories in Figure 6.

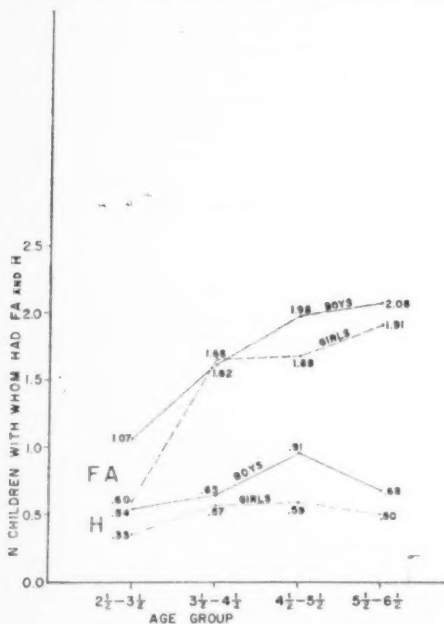


FIG. 5. Mean number of friendly approach and hostile interactions with other children in each 2-minute record for eight age and sex groups.

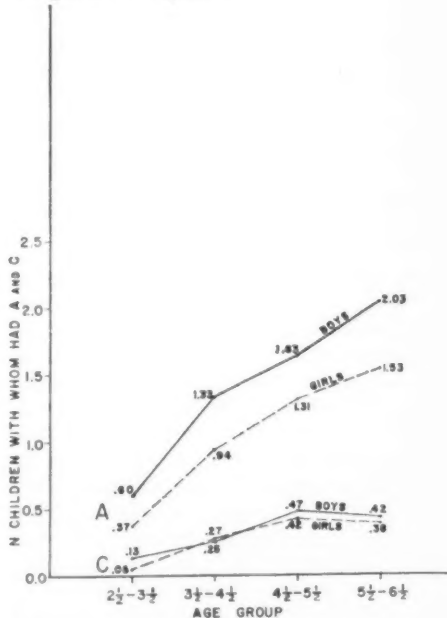


FIG. 6. Mean number of association and conversation interactions with other children in each 2-minute record for eight age and sex groups.

Age and sex differences in social interaction are clearer when the data in Figures 5 and 6 are translated into terms of frequency of interaction. Boys in the $2\frac{1}{2}$ - $3\frac{1}{2}$ year group had almost one association and one friendly approach interaction with other children in each 2 minutes, but had a conversation with another child less frequently, once in 18 minutes. Boys in the $5\frac{1}{2}$ - $6\frac{1}{2}$ year group had two association and two friendly approach interactions with other children each 2 minutes, and held a conversation with another child about every 5 minutes. The youngest group of girls had an association interaction with another child every 6 minutes, a friendly approach interaction every 3-4 minutes, and a conversation with another child once in 40 minutes. In each 2 minutes, the oldest group of girls had an association interaction with one and a half children and a friendly approach interaction with two children; they held a conversation with another child about every 5 minutes. Tests of age differences were significant beyond the .001 level in analyses of variance for the three friendly classifications.

The mean number of hostile interactions for the age and sex groups, shown in Figure 5, are those that would be expected from the previous description of mean percentages of use of dramatic play and reality hostility. For the measures of number of hostile interactions, however, the unusually high level of hostility shown by $4\frac{1}{2}$ - $5\frac{1}{2}$ year boys differed (.01 level) from the level of hostility of boys of other ages and of girls of all ages. This was noted earlier for use of reality hostility, but the difference for that measure was not statistically significant. The range of mean hostile interaction in 2 minutes for $4\frac{1}{2}$ - $5\frac{1}{2}$ year boys was from .70 to 1.32, and the standard deviation was .17.

The author's impression of almost all boys of this age, regardless of school group, was that they were noisy, rough, slam bang "shooters" and "clobberers," and that they were regarded as public enemies by the girls in the groups during most of the observed play. Most of the relatively self-controlled and placid boys in the $5\frac{1}{2}$ - $6\frac{1}{2}$ year group had attended the preschools the previous

year; by teachers' reports, the year before they had been as excited and excitable as the $4\frac{1}{2}$ - $5\frac{1}{2}$ year boys of this study. Freudian theory suggests that boys may be solving the Oedipal complex at about this age. The hostile behavior of these boys suggested they were solving some life problem or were generally frustrated. The small size of the standard deviation and range suggest that their high level of hostility was a problem of development or of culture, and was not due to large individual differences in the boys' behavior within this age group.

Sex differences were significant beyond the .001 level for hostile interactions, beyond the .005 level for association interactions, and beyond the .05 level for friendly approach interactions. This finding disagrees with the finding of no sex difference by Marshall and McCandless (1957a) for the social interactions of 18 boys and 18 girls attending an Iowa preschool. Mean social interaction scores for the same categories from the two studies are listed in Table 6. Data for Kentucky children aged $3\frac{1}{2}$ - $5\frac{1}{2}$ years are used rather than that for all children. This limitation made ages of the Kentucky and Iowa groups comparable, but not matched. The greater amount of social interaction for the Kentucky children may indicate that these groups included more older children. The author collected the majority of records in both studies, so there should have been no differences in

TABLE 6
MEAN SOCIAL INTERACTION SCORES OF BOYS AND
GIRLS IN KENTUCKY AND IOWA STUDIES

Sex groups	Social interaction scores	
	Association + friendly approach	Hostile
Kentucky, $3\frac{1}{2}$ - $5\frac{1}{2}$ years		
35 girls	2.80	.58
35 boys	3.27	.78
Iowa, 4-1 to 5-7 years		
18 girls	2.24	.32
18 boys	1.84	.38

observation method or observers. It is likely, however, that the occurrence of sex differences in friendly social interaction scores depends on the individuals in, or the constitution of, the groups.

Social Acceptance by the Group

Picture sociometric scores, the measures of children's popularity within the preschool group, did not differ with the age or sex of the child. This finding could have been predicted from the data just presented and the relations reported by McCandless and Marshall between sociometric and social interaction scores. In the Iowa study, girls had significantly higher sociometric scores than boys, but did not differ from boys in the number of friendly interactions. The boys had significantly more friendly interactions in the present study, but did not differ from the girls in popularity.

Test Vocabulary and Aggression

The children of this study had a mean vocabulary age that was 2 years beyond

their chronological age, as is shown in age and sex group mean scores on the Stanford-Binet Vocabulary test presented in Figure 7. Age, but not sex, differences were significant (.001 level) in the analysis of variance test.

The boys and girls in this study showed a decrease in test aggression toward the experimenter with increasing age, with the exception of $4\frac{1}{2}$ - $5\frac{1}{2}$ year boys. The interaction between sex and age was significant (.025 level) in analysis of variance test. It is shown in the mean test aggression scores for the age and sex groups presented in Figure 8.

Summary

Two classifications of measures developed to explore children's use of language and hostility in child directed play of preschool groups entered into different relations with the age and sex of the child. An increase with age was found in the frequency of use of five categories of dramatic play lan-

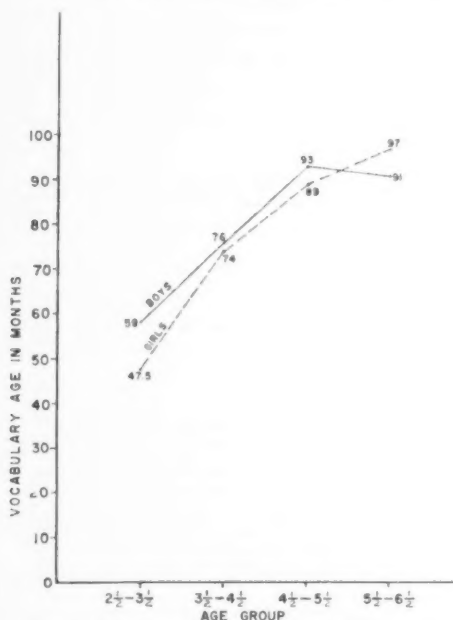


FIG. 7. Mean months of vocabulary age for the eight age and sex groups.

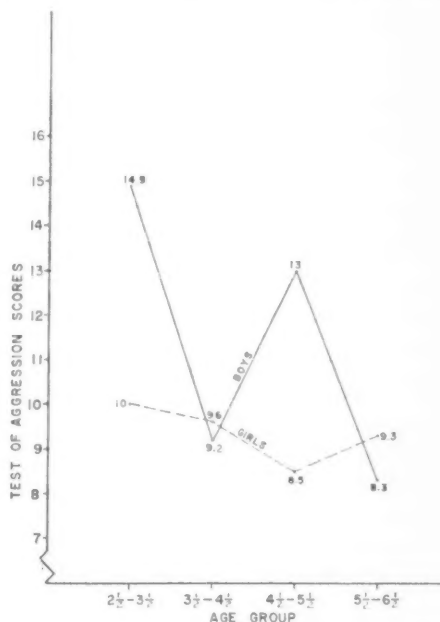


FIG. 8. Mean test of aggression scores (frequency and intensity of aggression) for the eight age and sex groups.

guage and hostility: suggestion, agreement, hostility, greeting, and question. Frequency of use of these five categories in the reality language and hostility classification did not change as the age of the child increased. Boys used dramatic play language and hostility more frequently than girls. The sexes did not differ in use of reality language, with one exception; girls used reality agreement more frequently than boys. Boys showed reality hostility more frequently than girls.

Four scores for aggression, submission, and dominance (combinations of measures of use of language and hostility) were larger for boys than for girls. The scores did not increase in size as age of the child increased. Higher scores for aggression and dominance were obtained for children aged $4\frac{1}{2}$ - $5\frac{1}{2}$ years. This age difference resembled nonsignificant trends for dramatic play and reality hostility.

Friendly interactions between children increased with age and were more frequent for boys than girls. The only age difference for hostile interactions was that boys in the $4\frac{1}{2}$ - $5\frac{1}{2}$ year group had an unusually large number of hostile interactions. Boys had more hostile interactions than girls.

Social acceptance in the preschool groups did not differ with age or sex of the child. Children in all age groups had a mean vocabulary age that was about 2 years beyond their chronological age. Test aggression decreased as age increased, except that $4\frac{1}{2}$ - $5\frac{1}{2}$ year boys showed almost as much test aggression as $2\frac{1}{2}$ - $3\frac{1}{2}$ year boys.

Relations between Measures of Children's Social Behavior

Age and sex differences have been reported between the dramatic play and reality classifications of use of language and hostility with peers. These differences suggest that the two classifications of use of language and hostility may be different variables.

Dramatic play and reality use of language and hostility can be described as disparate variables if:

1. The measures in each category are positively related, and either are not related or are negatively related to measures in the other category

2. The two categories of measures enter into different relations with measures for other variables

Both types of relations are included in the correlations between measures of preschool social behavior described in this section.

Relations testing the assumption that use of language and hostility is involved in influencing and adjusting to age peers are described in this section, also. These are the correlations obtained between measures of dramatic play and reality use of language and hostility and the scores for social participation and social acceptance of the 108 children.

Age and sex differences in the frequency of use of language and hostility indicated that correlations for these frequency measures should be done separately for each age and sex group.³ Therefore, most correlations presented in this report are averages of product-moment r 's for each age and sex group, obtained by use of the r to z transformation. Significance of average r 's, and of differences in r 's, were determined for the z 's of the r 's, as described in McNemar (1955).

Use of Dramatic Play and Reality Language and Hostility

Evidence that measures in the dramatic play classification are positively related to each other, and that measures in the reality classification also are positively related to

³ Almost half of the statistical computations of this investigation were performed on the IBM 650 computer of the Computing Center of the University of Kentucky, of which J. W. Hamblen is Director. Assistance on computations performed on desk calculators was given by four graduate assistants: Joann Atcher, Rohini Doshi, Rachel C. Graves, and Hazel McCrary; and by the following undergraduate students: Mary Robert Barger, Alice Evenburgh, Dixie Grugin, Carolyn Houston, Barbara Landrum, Lynne Santen, Ruth Thornton, Joyce Ann Wood, and Betty Young.

each other, is presented in Table 7. Within each classification, the children who made the most suggestions were the children who agreed more frequently, and who showed more hostility toward peers.

It is generally believed that children who make the most suggestions during play with peers are different individuals from those who most frequently agree with the suggestions of others. The close relations between suggestion and agreement within both the dramatic play and the reality classifications contradict this belief. These findings indicate that the "ascendant" child, who makes the most suggestions, is also the "submissive" child, in the sense that he most frequently agrees with the suggestions of others in dramatic play or in talk as himself with peers.

Use of language and hostility during dramatic play did not relate to use of language and hostility during reality play, as is shown in most of the correlations between classifications listed in Table 7. The children who talked most frequently during dramatic play were not necessarily, then, the children who used reality language and hostility most frequently in talk with peers. A clear implication of these data is that the descriptions of "talkative" or "highly

verbal" cannot accurately describe children's use of language and hostility during both dramatic play and talk as themselves with peers.

These findings strongly support the conception of the dramatic play and reality classifications as opposite or disparate variables. They meet the first requirement for such description presented in the introduction to this section: positive relations within each classification, and either no relations or negative relations between the two classifications.

The positive relations between friendly and hostile behavior within each of the dramatic play and reality classifications support an idea presented in the preceding section, that the dramatic play and reality classifications constitute a broader, or more general dichotomy than that of friendly and hostile behavior.

Relations for two measures that were not duplicated in both classifications, dramatic play imitation and reality greeting, constitute the exceptions to positive relations within classifications, as is shown in Table 7. The use of reality greeting with children and adults failed to relate to any measure of use of language and hostility in either the dramatic play or reality classification.

TABLE 7

AVERAGE CORRELATIONS OF THE EIGHT AGE AND SEX GROUPS BETWEEN MEASURES OF USE OF
DRAMATIC PLAY AND REALITY LANGUAGE AND HOSTILITY

Measures of language and hostility	Dramatic play				Reality			
	Sug- ges- tion	Agree- ment	Imita- tion	Hos- tility	Sug- ges- tion	Agree- ment	Hos- tility	Greet- ing
Dramatic play:								
Agreement	.65**							
Imitation	.17	.21						
Hostility	.59**	—	—					
Reality:								
Suggestion	.31**	.03	-.34**	-.04				
Agreement	.17	.13	-.27*	-.24	.63*			
Hostility	.07	—	—	.13	.47**	.19		
Greeting	-.21	—	—	.00	.07	.00	.05	
Question	.08	—	—	-.05	.54**	.46**	.13	.12

* Significant at .05 level.

** Significant at .01 level.

The other measure combining use with peers and adults, reality question, resembled measures of use of reality language and hostility with peers. Correlations were not computed between all measures and dramatic play agreement and imitation, as is indicated by dots in Table 7.

There are three exceptions in Table 7 to the lack of relations between classifications. One is a positive relation between dramatic play suggestion and reality suggestion. This average r is significantly smaller than the average r 's between dramatic play suggestion, agreement, and hostility, and between reality suggestion and agreement. It is not, then, in real contradiction to the general trend. The other exceptions are that dramatic play imitation correlated negatively with reality suggestion and reality agreement.

The sexes did not differ in relations between measures of use of language and hostility, with one exception: use of reality hostility did not relate in the same way to other measures for boys and girls, as is shown in Tables 8 and 9. In 10 of the 12 comparisons in which the average r was significant for either or both boys and girls, sex differences in average r 's were not sig-

nificant. Use of language and hostility during dramatic play and reality play had, with one exception, the same meaning (interrelations between measures) for these boys and girls, although boys used dramatic play language and hostility more frequently than girls.

The sex difference (.05 level) in relations for use of reality hostility is puzzling. For girls, reality hostility increased as dramatic play suggestion increased, as is shown in Table 8, while for boys, this relation was in the opposite direction, and not significant, as is shown in Table 9. For boys, reality hostility increased as dramatic play hostility increased, while for girls this relation was in the opposite direction and not significant. The more frequently girls made suggestions during dramatic play, then, the more frequently they showed hostility during dramatic play and in play as themselves, although there was no relation between dramatic play hostility and reality hostility. As boys made suggestions more frequently in dramatic play, they showed dramatic play hostility more frequently, and less frequently showed reality hostility in play as themselves, although boys high in dramatic play hostility tended to be boys high in

TABLE 8
AVERAGE CORRELATIONS OF THE FOUR GIRLS' AGE GROUPS BETWEEN MEASURES OF USE OF
DRAMATIC PLAY AND REALITY LANGUAGE AND HOSTILITY

Measures of language and hostility	Dramatic play				Reality			
	Sugges- tion	Agree- ment	Imita- tion	Hos- tility	Sugges- tion	Agree- ment	Hos- tility	Greet- ing
Dramatic play:								
Agreement	.73**							
Imitation	.22	.14						
Hostility	.54*	—	—					
Reality:								
Suggestion	.40*	.26	— .34*	.20				
Agreement	.11	.20	— .45*	— .25	.70**			
Hostility	.41*	—	—	— .11	.58**	.05		
Greeting	— .36*	—	—	— .01	.01	.07	— .04	
Question	— .17	—	—	.04	.41*	.48**	.18	.25

* Significant at .05 level.

** Significant at .01 level.

TABLE 9

AVERAGE CORRELATIONS OF THE FOUR BOYS' AGE GROUPS BETWEEN MEASURES OF USE OF
DRAMATIC PLAY AND REALITY LANGUAGE AND HOSTILITY

Measures of language and hostility	Dramatic play				Reality			
	Sugges- tion	Agree- ment	Imita- tion	Hos- tility	Sugges- tion	Agree- ment	Hos- tility	Greet- ing
Dramatic play:								
Agreement	.58**							
Imitation	.13	.26						
Hostility	.62**	—						
Reality:								
Suggestion	.23	-.15	-.34*	-.21				
Agreement	.21	.08	-.10	-.22	.55*			
Hostility	-.18	—	—	.45**	.38*	.29		
Greeting	-.08	—	—	.00	.11	-.07	.11	
Question	.26	—	—	-.11	.63**	.45**	.10	.01

* Significant at .05 level.

** Significant at .01 level.

reality hostility. These confusing everyday language statements of the sex differences in relations are in line with relations to be reported for other aspects of social behavior. They suggest a sex difference in the meaning of use of reality hostility.

The preceding description of relations between the various categories of language use has been limited to use of language during friendly approach interactions. Similar relations were obtained for use of language during association, friendly approach, and conversation interactions, as is shown in Table 10. Findings presented in the developmental differences section suggested that the relative position of the child in the age group was about the same for frequency of use of language during the three types of friendly interaction. These data suggest that relations between categories of use of language are about the same during the three types of friendly interaction also.

Use of Language and Hostility and Social Interaction Scores

Children's use of language and hostility to carry out roles in dramatic play related closely to the number of children with whom they played, as is shown in Table 11. Large, positive average r 's were obtained for boys

and girls between dramatic play suggestion and hostility and the friendly interaction scores. These findings give strong support to the assumption on which this investigation is based: that use of language and hostility is involved in influencing and adjusting to age peers during play in preschool groups.

TABLE 10

INTERRELATIONS OF THREE USE OF LANGUAGE
CATEGORIES DURING THREE TYPES OF FRIENDLY
INTERACTION FOR GIRLS AND BOYS

Type of friendly interaction	Average r between:		
	Dramatic play suggestion and reality suggestion	Dramatic play suggestion and reality agreement	Reality suggestion and reality agreement
Association	.47*	.29	.71*
	<i>.13</i>	<i>.20</i>	<i>.68*</i>
Friendly approach	.40*	.11	.70*
	<i>.23</i>	<i>.21</i>	<i>.55*</i>
Conversation	.53*	.24	.74*
	<i>.51*</i>	<i>.44*</i>	<i>.71*</i>

Note.—Boys' average r 's in italics.

* Significant at .01 level.

TABLE 11
AVERAGE CORRELATIONS BETWEEN MEASURES OF USE OF LANGUAGE AND HOSTILITY
AND FRIENDLY INTERACTION SCORES FOR GIRLS AND BOYS

Measures of use of language and hostility	Friendly interaction scores			
	Association	Friendly approach	Conversation	All friendly (A + FA + C)
Dramatic play:				
Suggestion	.70**	.85**	.70**	.81**
Hostility	.54**	.65**	.68**	.67**
Reality:				
Suggestion	.56**	.60**	.50**	.61**
Hostility	.67**	.73**	.76**	.76**
Suggestion	.17*	.46**	.52**	.29
Agreement	-.36**	.12	.10	-.12
Hostility	-.27	-.06	.28	-.14
Greeting	-.18	.18	.00	-.02
Question	.25*	.51***	.45***	.39**
Suggestion	-.27*	-.10*	-.14*	-.23*
Hostility	.02	-.03	-.07	-.14
Greeting	-.12	.08	-.12	-.12
Question	-.27	.01	-.06	-.24
Hostility	-.17	.19	.16	.14

Note.—Boys' average *r*'s in italics.

* Sex difference in average *r*'s is significant at .05 level.

* Significant at .05 level.

** Significant at .01 level.

Support for this assumption was not provided by relations between reality use of language and hostility and the friendly interaction scores shown in Table 11. Use of reality language and hostility did not relate to extent of social participation with peers at preschool for boys. For girls, most categories of use of reality language also lacked this relation, but their use of reality suggestion and reality hostility in talking with other children as themselves increased as the number of social interactions increased. The latter average *r*'s for girls are significantly smaller (.05 level), however, than those listed in Table 11 between dramatic play suggestion and hostility and all friendly interaction scores except conversation.

These findings, then, are that use of dramatic play language and hostility increases as the number of friendly interactions with other children increases, but use of reality language and hostility does not relate to the number of friendly inter-

actions with other children, except in a few instances for girls. The findings support the conception of dramatic play and reality classifications as opposite or disparate variables. They meet the second requirement for such description presented in the introduction to this section: the two categories of measures enter into different relations with measures for other variables.

Additionally, these relations provide further evidence that the descriptions of "talkative" or "highly verbal" have confused meaning when applied to children's use of language during play with peers.

The sex difference in relations for reality hostility supports the idea, presented earlier in this section, of a difference in the meaning of use of reality hostility for the two sexes. For girls, use of reality hostility has been shown to increase as use of dramatic play language increases, and as the number of friendly interactions with other children increases. These relations were not found for boys, although boys' use of dramatic

play and reality hostility had positive relations not found for girls.

Frequency of use of both dramatic play and reality hostility increased as the number of hostile interactions with other children increased. The average r 's for girls and boys were .95 and .69, respectively, between reality hostility and hostile interactions, and were .71 and .60, respectively, between dramatic play hostility and hostile interactions. These r 's are larger (.05 level) than 15 of the 16 corresponding r 's with scores for friendly interactions shown in Table 11. Such findings indicate a closer relation for both sexes between the frequency of use of the two classifications of hostility and number of hostile interactions than between the two classifications of hostility and number of friendly interactions. The dramatic play and reality classifications of hostility did not differ in relations with hostile interactions, as they did in relations with friendly interaction scores. Correlations were not determined between use of language measures and hostile interactions.

Friendly and hostile interactions with peers were positively related for these children. The average r 's for girls and boys were .65 and .51, respectively, between all friendly interactions (association + friendly approach + conversation) and hostile interactions. This direction of relations agrees with the positive relations between use of language and hostility within both the dramatic play and reality classifications. All these relations suggest that friendly and hostile behavior do not constitute a dichotomy of "opposites." Additionally, they are in line with such popular statements as: "Only friends quarrel," or "You always hurt the one you love." An age difference in relations for boys indicates that the related behaviors probably are not the same, however, as the love and hate ambivalence of one of the Freudian mechanisms of identification. The average r between friendly and hostile interactions was .74 for boys younger than $4\frac{1}{2}$ years, and it was .26 for boys older than $4\frac{1}{2}$ years. The difference in size of correlations, significant at the .05 level, should be reversed for these age groups to be in line with Freudian theory.

Use of Language and Hostility and Social Acceptance

The children who talked more frequently in carrying out the roles of dramatic play were chosen more often as preferred playmates by their preschool peers than children who were observed to use dramatic play language less frequently. This is shown in the significant, positive average r 's in Table 12 between sociometric test scores and meas-

TABLE 12

AVERAGE CORRELATIONS BETWEEN SOCIOMETRIC, VOCABULARY, AND AGGRESSION TEST SCORES AND OBSERVATION MEASURES FOR GIRLS AND BOYS

Observation measures	Test scores		
	Socio-metric	Vocabulary	Aggression
Dramatic play language:			
Suggestion	.40*	-.13	-.18
	.46**	.14	.03
Agreement	.52**	-.10	-.07
	.34*	.03	.02
Hostility	-.01*	-.30*	-.12
	.56***	.11*	-.06
Reality language:			
Suggestion	.09	-.10	.25
	.16	-.17	.14
Agreement	-.13	.00	.26
	.04	-.19	.30*
Hostility	-.12	-.25	.09
	-.12	-.11	.26
Greeting	-.24	.25*	—
	-.04	-.27*	—
Question	-.15	.05	—
	-.03	-.01	—
Social interaction:			
Association	.48**	-.10	—
	.45**	.05	—
Friendly approach	.40*	-.22	—
	.63**	-.10	—
Conversation	.30	.24	—
	.64**	.20	—
Association + friendly approach + conversation	.49**	-.18	-.18
	.59**	.02	-.23
Hostile	.13	-.14	.05
	.35*	.06	.09

Note.—Boys' average r 's in italics.

* Sex difference in average r 's is significant at .05 level.

* Significant at .05 level.

** Significant at .01 level.

ures of use of dramatic play suggestion and agreement. In contrast, the frequency of children's talk as themselves failed to relate to this estimate of social acceptance in the preschool group. No average r 's between sociometric scores and reality use of language and hostility in Table 12 are significant, and most are negative in direction.

These relations distinguish the social acceptability of the dramatic play and reality classifications. Frequency of children's use of dramatic play language and, for boys, use of dramatic play hostility, was involved in influencing and adjusting to age peers in a socially acceptable way during play in preschool groups, while frequency of use of reality language and hostility lacked this meaning or such relations.

Social acceptance is included in almost all lists of desired or desirable characteristics of children and adults. By inference, then, dramatic play use of language and hostility can be described as desirable behavior for children, while reality use of language and hostility may be said to lack this meaning.

The measures that related to social acceptance of these children were the percentage of 2-minute observation records in which the child made suggestions or agreed in words with others to carry out the roles of dramatic play. There were children in all preschool groups who frequently associated with others in dramatic play, but did not talk during many 2-minute records of this play. Such behavior was not included in dramatic play measures unless hostile, and may not relate to social acceptance in the same way as dramatic play use of language.

Girls' use of dramatic play hostility did not relate to their social acceptance, although it has been demonstrated to increase for girls with age, with more dramatic play use of language, and with more friendly interactions with peers. Girls' use of reality hostility also has been reported to relate positively to their use of dramatic play language and their friendly interaction scores, and it had negative, nonsignificant relations with girls' social acceptance. These findings suggest that both types of hostility increase at the same time as increases in friendly be-

havior, but that the display of hostility by girls is not important in determining the social acceptability of their behavior to their preschool peers. Their social acceptance depends in part, at least, upon the frequency and extent of their friendly behavior with peers, and is irrespective of their observable hostility to peers.

Boys apparently had to "shoot their peers dead" to be popular. The correlation between their use of dramatic play hostility and sociometric scores shown in Table 12 is large, positive, and differs significantly from that for girls. The frequency of use of dramatic play hostility predicted the social acceptance of one age group of boys, those aged $4\frac{1}{2}$ - $5\frac{1}{2}$ years, better than any other measure of social behavior; the r was .76 for this group of boys. This relation for dramatic play hostility for boys is in line with those described for both boys and girls in other relations for use of the dramatic play classification of measures.

There were no sex differences in relations between frequency of reality hostility and sociometric scores, as is shown in Table 12. The display of hostility for their own behalf, then, did not affect the social acceptability of either boys or girls to their preschool peers.

The correlations for boys and girls between hostile interaction scores and sociometric scores in Table 12 are those that could be predicted from the findings described in the three preceding paragraphs. The positive average r for boys is almost midway between the corresponding r 's for dramatic play hostility and reality hostility. For girls, there was no relation between social acceptance and the number of hostile interactions with peers. The r 's for both sexes are similar to the .36 and -.09 correlations between these scores reported by McCandless and Marshall (1957b) for 18 boys and 18 girls, respectively.

Friendly interaction scores are shown in Table 12 to have as close relations to social acceptance in the preschool group as use of dramatic play language. These correlations indicate that greater social participation with peers of a friendly nature, as well as use of dramatic play language, is socially

acceptable and, hence, "desirable" behavior for all preschool children.

The correlations listed in Table 12 between friendly interaction scores and sociometric scores are not as large as those found for Iowa children by Marshall and McCandless (1957b), although the differences in r 's between samples were not significant. Differences in age of the children in the two studies may contribute to the slightly smaller r 's for the Kentucky children. Correlations for the 2½-3½ year group, an age year not included in the Iowa study, are somewhat smaller than those for the older age groups. The r 's for girls and boys aged 2½-3½ years were .29 and .38, respectively, between all friendly interaction scores and sociometric scores.

Use of Language and Hostility and Vocabulary and Aggression Test Scores

The vocabulary age of the child did not relate to his use of language and hostility with peers, or to the number of social interactions with peers, as is shown in Table 12. Social use of language with preschool peers, then, did not depend on the children's knowledge of vocabulary. These children had an unusually high mean level of vocabulary knowledge on the Stanford-Binet test, and this finding may be limited to this level of vocabulary knowledge. The lack of relations reinforces, however, the implication drawn from other data that the description of "highly verbal" fails to have its expected connotations when applied to preschool children's use of language with peers. This finding also reinforces the claim that the classifications of preschool children's use of language and hostility are "new" variables.

Aggression scores on the doll play type test of frustration did not relate to the play observation measures, with one sex group exception, as is shown in Table 12. The frequency and intensity of aggression during this test, then, failed to relate to the hostility shown by the children to preschool peers. The implication of these findings is that the measures of hostility to peers and the aggression scores on the test were esti-

mates of two unrelated and dissimilar characteristics of preschool children.

Sociometric scores did not relate to either vocabulary scores or test aggression scores. Average r 's of girls and boys between sociometric and vocabulary scores were .26 and .01, respectively, and were -.08 and -.03, respectively, between sociometric and test aggression scores.

Aggression, Dominance, and Submission Scores

The dramatic play and reality classifications of children's use of language and hostility have been reported to relate differently to age, extent of social participation, and the social acceptance of these preschool children. Either no relations or negative relations were found between these two classifications. Measures from both classifications were combined additively to obtain aggression, dominance, and submission scores, as is listed after the names of the scores in Table 13. Relations for the dramatic play and reality classifications indicate that two different variables were combined in each of these scores. It could be pre-

TABLE 13
AVERAGE CORRELATIONS BETWEEN SOCIOMETRIC
SCORES AND AGGRESSION, DOMINANCE, AND
SUBMISSION SCORES FOR SEX GROUPS

Combined observation measures	Sociometric scores	
	Girls	Boys
Positive aggression (sum of dramatic play suggestion and reality suggestion)	.26	.46**
Aggression (sum of positive aggression and dramatic play hostility and reality hostility)	.20	.53**
Submission (sum of dramatic play imitation and agreement and reality imitation and agreement)	.42*	.25
Dominance (aggression minus submission)	.07	.27

* Significant at .05 level.

** Significant at .01 level.

dicted, then, that the relative proportions and variability of the specific dramatic play and reality measures in each combined score would determine the relations between the combined scores and other measures.

The correlations between the combined scores and sociometric scores are presented in Table 13. These can be compared with the correlations between sociometric scores and the use of language and hostility components of the combined scores presented in Table 12. When this comparison is made, the importance of the components for the relations of each combined scores appears to be as follows:

1. Positive aggression: dramatic play suggestion appears to have influenced this r for boys, while for girls, this r is about midway between those obtained for dramatic play suggestion and reality suggestion.

2. Aggression: the r 's for dramatic play hostility (the most variable component) resemble these r 's more closely than those for the other three components.

3. Submission: the r 's for dramatic play agreement (the most variable component) are higher, but resemble these r 's more closely than those for reality agreement.

4. Dominance: these scores do not relate to social acceptance of either sex group, and the r 's do not appear to resemble any r 's for the components.

The results of this comparison agree with the prediction in the preceding paragraph: correlations for the combined scores depend on the relative proportions and variability of the dramatic play and reality components.

In this instance, it was possible to estimate the importance of dramatic play and reality measures in relations obtained for the combined scores. This is not possible for scores used in past investigations that are similar in definition to the aggression, dominance, and submission scores of the present investigation. The present findings suggest that such studies should be repeated with a separation of the dramatic play and reality components.

The relations for the combined scores and their components indicate that the combined scores are less useful than the parts in

furnishing knowledge of children's behavior. Hence, further analyses were not made of relations between aggression, dominance, and submission, and the other variables of this investigation.

Summary

Measures in the dramatic play and reality classifications of children's use of language and hostility with peers did not relate in the same way to other measures of children's social behavior. In general, increasing use of dramatic play language and hostility accompanied an increasing number of friendly interactions with other children, and more social acceptance in the preschool group, while the frequency of use of reality language and hostility failed to relate to these measures of social behavior. Language and hostility measures within each classification were positively related. Either no relations or negative relations were found between these two classifications of use of language and hostility. These results support the conception of the two classifications as different or opposite variables. They indicate, also, that not all use of language and hostility with peers can be described as important in influencing and adjusting to peers in preschool groups.

Sex differences in relations seldom were found in relations for use of language or for friendly interactions. Boys apparently had to display hostility during dramatic play, as well as friendly behavior, to be popular. For girls, social acceptance related to use of dramatic play language and number of friendly interactions, and was irrespective of observed hostility to peers. For both sexes, hostile behavior to peers increased as friendly behavior toward peers increased.

Very few age differences in relations were found among the relations between measures of social behavior with peers for these children aged 2½-6½ years.

The children's vocabulary age on the Stanford-Binet Vocabulary test failed to relate to measures of use of language and hostility with peers. These results support the idea that the dramatic play and reality

classifications of use of language and hostility are new variables.

The frequency and intensity of aggression during a frustration test failed to relate to any measure of observed hostility to peers, as well as to friendly behavior. These findings suggest that the test and observation measures studied different characteristics or variables.

Relations for the aggression, dominance, and submission scores that combined measures from both the dramatic play and reality classifications were compared with relations for measures in the dramatic play and reality classification. This comparison indicated that the combined scores were less useful than the language and hostility measures of the two classifications in furnishing knowledge of children's behavior.

Relations between categories of use of language were about the same during association, friendly approach, and conversation interactions.

Relation of Home Experiences to Children's Social Behavior with Age Peers in Play in Preschool Groups

No one doubts that home experiences are major determinants of the behavior of children away from home. Nevertheless, research evidence suggesting how or what

home experiences may affect such behavior is scanty. This section describes an exploration of relations between home experience variables known to relate to language development and the measures of child behavior away from home that have been described in the two preceding sections.

Home Experiences with Dramatic Play Topics

The wide range of experience known to foster language development of children was limited in this investigation to experiences that might have furnished information about the dramatic play topics of the child's preschool group. Both parents were asked to check any of nine possible home experiences through which the child had obtained information about each of the dramatic play topics of his preschool group. The percentage of dramatic play topics checked by parents for the eight frequent types of home experience are presented in Table 14. These percentages suggest that the child's information about the dramatic play topics was obtained principally through talk with the father, talk with the mother, talk with children at home, personal experience, and viewing television. Sources of information used much less frequently were talk with adults other than parents, books and stories, and story or music records.

TABLE 14

MEAN AND STANDARD DEVIATION OF PERCENTAGE OF DRAMATIC PLAY TOPICS CHECKED BY PARENTS FOR EACH HOME SOURCE OF INFORMATION OF GIRLS AND BOYS, AND SIGNIFICANCE OF THE SEX DIFFERENCES

Source of information at home	Girls			Boys			Significance of sex difference
	N*	M	SD	N*	M	SD	
Talk with father	46	43	22	55	58	22	.005
Talk with mother	45	44	25	55	61	20	.001
Talk with other adults	29	23	16	54	35	25	.025
Talk with children	41	46	23	55	53	26	ns
Personal experience	45	40	17	55	50	18	.005
Books and stories	37	31	21	54	44	23	.001
Television	42	43	24	51	59	22	.001
Story or music records	21	19	10	43	16	10	ns
Four or more sources checked	38	29	18	53	46	25	.001

* N = number for whom the source of information was given any checks.

Boys, unquestionably, had more opportunities at home to learn about dramatic play topics than girls. The percentages of boys significantly exceeded those of girls for seven of the nine types of experience in analysis of variance tests, as is shown in Table 14. Boys had as many opportunities as girls to learn about home and family situations, and had more learning experiences about other topics and situations than girls. For example, few parents talked about cowboys, guns, destructive activities, and construction work with girls.

Television was the only home source of information about dramatic play topics to be checked more frequently as the age of the child increased. The percentage of topics checked for other sources did not change with age, according to analysis of variance tests.

The percentages in Table 14 indicate that many children lacked information about specific topics, or equal opportunity to learn about the topics through several sources of information, or both possibilities. Two analyses were performed to study these possibilities. The data from an analysis of the number of sources checked for each topic are shown in the last line of Table 14. Results of a correlation analysis between percentages checked for six sources of information are shown in Table 15. Results

of both analyses indicate that children given information about more dramatic play topics through one home experience tended to have been given information about more topics through other home experiences. In the opposite terminology appropriate for almost as many children, children who had not been given information about many dramatic play topics through one home experience probably did not have an opportunity to learn about the topics through other home sources of information.

The average r 's in Table 15 suggest, incorrectly, that positive relations between percentages parents checked for each source of information are higher for girls than for boys. Significant sex differences in these r 's were limited to the two shown in Table 15. The somewhat smaller average r 's for boys include the significant differences in r 's for 4½-5½ year boys from those obtained for boys of other ages that are shown in Table 16. The percentage of dramatic play topics checked by parents of 4½-5½ year boys for one home source of information often failed to relate to the percentage of topics these parents checked for other sources.

Relations for Home Experiences with Dramatic Play Topics

Children's Use of Language and Hostility with Peers. An overall generalization

TABLE 15
AVERAGE CORRELATIONS BETWEEN PERCENTAGES OF DRAMATIC PLAY TOPICS CHECKED FOR SIX HOME SOURCES OF INFORMATION OF GIRLS AND BOYS

Home source of information	Talk with father	Talk with mother	Talk with children	Personal experience	Books and stories
Talk with mother	.41*				
	.35*				
Talk with children	.45*	.62**			
	.13	.34			
Personal experience	.45*	.62**	.48**		
	.11	.39*	.36*		
Books and stories	.07*	.62**	.35	.57**	
	.37**	.59**	.41**	.41**	
Television	.05*	.43*	.41*	.36	.34
	.44**	.16	.52**	.24	.39*

Note.—Boys' average r 's in italics.

* Sex difference significant at .05 level.

* Significant at .05 level.

** Significant at .01 level.

TABLE 16

DIFFERENCES BETWEEN 4½-5½ YEAR BOYS AND BOYS OF OTHER AGES IN INTERCORRELATIONS OF PERCENTAGES OF DRAMATIC PLAY IDEAS CHECKED BY PARENTS FOR HOME SOURCES OF INFORMATION

Correlations between home sources of information	<i>r</i> for 4½-5½ years	Average <i>r</i> for other ages	<i>p</i> of <i>t</i> test of difference
Talk with father and books and stories	-.04	.55**	.05
Talk with mother and television	-.35	.41*	.01
Talk with mother and talk with children	-.07	.51**	.05
Books and stories and television	-.09	.59*	.05

* Significant at .05 level.

** Significant at .01 level.

about the correlations shown in Table 17 between extent of information the children gained at home about the dramatic play topics of the preschool group and their use of language and hostility during preschool play is as follows: As the child's home experiences with the dramatic play topics of the preschool group increased, the child's use of dramatic play language and hostility increased, but use of reality language and hostility either decreased or was not affected by these home experiences. These relations furnish additional evidence of a distinctly different meaning for children's use of dramatic play language and hostility and children's use of reality language and hostility in talking with age peers.

The home experiences that had the largest number of significant relations with use of dramatic play language and hostility are the first three listed in Table 17: talk with father, talk with mother, and talk with other adults. Inspection of the size of correlations for all home sources of information suggests that children learn more through talking with loved adults than through such media as books and television. The standard of learning in this instance is use of knowledge during children's uncertain, beginning attempts to play with age peers.

These data, with those of the preceding section, disclose a possible way for parents to help their child in social adjustments at preschool. They suggest that if parents and adults talk with the preschool child about more of the topics the child can use in play with other children, the child talks about and plays these topics more frequently with preschool peers, and has a better chance of social acceptance in the preschool group.

These generalizations do not take account of the seven significant sex differences in relations for the dramatic play classification shown in Table 17. These sex differences in relations indicate that the parts of the generalizations concerned with use of dramatic play language and hostility applied to girls, but not to boys. Girls who more frequently used dramatic play language and hostility had opportunities to learn about more dramatic play topics from personal experience and talk with parents and other adults than girls using dramatic play language and hostility less frequently with peers; these correlations for girls are large and significant. For boys, these correlations approach zero in size or are negative in direction.

The boys used dramatic play language and hostility more frequently than girls, and had the highest mean level of social interaction that has been reported for boys and girls in two studies in two different states (see Table 6). For these boys, then, the distributions of measures of use of dramatic play language and hostility and of social interaction scores may have been concentrated at very high levels. There may have been very few boys in this sample drawn from the middle and lower range of frequency of use of dramatic play language and hostility and of social interaction possible for all preschool children. If so, the distribution within this sample may have negated relations demonstrable within samples from lower ranges or representing the total population.

Boys had learned about more of the dramatic play topics from more home sources of information than girls. The standard deviations for girls around their lower mean percentages of dramatic play topics checked

TABLE 17

AVERAGE CORRELATIONS BETWEEN PERCENTAGES OF DRAMATIC PLAY TOPICS CHECKED FOR HOME SOURCES OF INFORMATION AND MEASURES OF USE OF LANGUAGE AND HOSTILITY DURING PLAY FOR GIRLS AND BOYS

Home source of information	Dramatic play			Reality				
	Suggestion	Agreement	Hostility	Suggestion	Agreement	Hostility	Greeting	Question
Talk with father	.44** -.01*	.15 .29	.41* .03	.24* -.19*	.11 .16	.39** -.22*	.13 -.25	-.01 -.04
Talk with mother	.43** -.25*	.22 .08	.43** -.25*	-.06 .18	-.24* .27*	.18 -.12	-.07 -.10	-.41* -.16
Talk with other adults	.52*** .00*	.77*** .00*	.57*** -.20*	.18 .08	.12 .13	— —	— —	— —
Talk with children	.23 .17	.07 .15	.20 -.05	.14 .08	.09 -.08	.07 -.25	-.16 -.28	-.17 -.03
Personal experience	.41* .21	.44** -.03*	.18 .16	.19 .04	-.34 .11	.16 .05	-.05 -.00	-.15 .03
Books and stories	.16 .17	.30 .16	.00 -.07	-.32 .09	-.50*** .12*	-.02 -.08	-.38* -.39*	-.61*** -.10*
Television	.24 .16	.18 .22	-.01 .18	-.13 .05	-.08 -.10	-.28 -.21	.25 -.12	-.24 .06
Story or music records	.41 .20	.22 -.27	.01 .04	.36 .21	-.05 .06	— —	— —	— —
Four or more sources checked	.41* .23	.41* .06	.27 .11	.10 .07	-.04 .10	— —	— —	— —

Note.—Boys' average *r*'s in italics.

* Sex difference is significant at .05 level.

* Significant at .05 level.

** Significant at .01 level.

for home information sources, shown in Table 14, are about as large as those for boys around their higher mean percentages. These data mean that the distributions of parent behavior were not the same within the samples of boys and girls. It is possible that the parent behavior distribution for girls was within the range permitting demonstration of these relations, and that the parent behavior distribution for boys was not within this range.

Either explanation of the sex differences in relations between the dramatic play classification and some home information sources is compatible with the sex similarities in corresponding relations for other home information sources. Most correlations for boys resemble those for girls between dramatic play use of language and hostility and the last six of the home information sources listed in Table 17. These *r*'s are smaller for both sexes than the sig-

nificant *r*'s obtained for girls in corresponding relations with talk with parents and talk with other adults.

Sex differences in relations for the dramatic play classification may be due, then, to a negation of relations for boys by an unusual sample of boys and their parents. The general statements of these findings may not need to take account of these sex differences.

The lack of or negative relations for use of reality language and hostility is not a corollary of the limitation of home information to those topics used in dramatic play. Dramatic play topics for all groups have been described as including most aspects of life within the cognizance of young children.

There is one exception in Table 17 to the finding of no relations or of negative relations between children's use of reality language and hostility and home experiences with dramatic play topics. This is the posi-

tive relation between use of reality hostility by girls and information gained through talk with father. This relation is in line with findings reported earlier that girls' use of reality hostility often resembled their use of dramatic play language and hostility in relations with other measures.

No significant r 's are listed in Table 17 between the dramatic play classification and three home sources of information: talk with children, watching television, and listening to story and music records. However, positive relations, similar to those for other home sources, were found within age groups for the two sources of television and story and music records. The average r for 4½-5½ year boys and girls between television and use of dramatic play hostility was a significant .45 that differed at the .05 level from the -.06 obtained for other age and sex groups. The negative relation between use of reality hostility and television is also in line with the general findings; this average r for all age and sex groups was a significant -.24. In the relations between story and music records and use of dramatic play suggestion, the average r of .44 obtained for boys older than 4½ years differed at the .05 level from that of -.25 for boys younger than 4½ years. For all groups of girls and the two older groups of boys, the average r between these measures was .43 and significant.

The first significant relation to be reported between frequency of use of reality greeting and other measures of this investigation occurred for all children for the information source of talk with other children at home and is not shown in Table 17. This source of information failed to relate otherwise to children's use of language and hostility. Children's use of reality language to greet or welcome other children and adults at preschool was less frequent when they talked with children at home about more dramatic play topics of the preschool. A significant average r of -.25 was obtained for all children between these measures.

Average r 's between home experiences with dramatic play topics and both association use of language and hostility and conversation use of language and hostility re-

sembled those presented in Table 17 for friendly approach use of language and hostility, but appeared to be slightly smaller in size.

Social Interactions with Peers. The relations shown in Table 18 between home experiences with dramatic play topics and number of social interactions with peers appear to be a replication on a lesser scale of the relations just described for use of dramatic play language and hostility with peers. General description of these relations, then, includes the following statements discussed more fully in preceding paragraphs.

1. The number of social interactions with peers increased as children had home experience with more of the dramatic play topics of the preschool group.

2. These relations were more often significant for girls than for boys. An unusual sample of boys and their parents may have resulted in the sex differences in relations shown in Table 18.

3. The home sources of information relating more closely to the number of social interactions with peers were those in which children talked about dramatic play topics with adults important to them.

Another instance of similarity in relations for girls' use of reality hostility and use of the dramatic play classification is shown in Table 18. The number of girls' hostile interactions with peers increased as the girls talked about more dramatic play topics with adults other than parents at home. Few correlations were determined for hostile interactions because of already described data suggesting that more useful information was obtained from correlations of dramatic play hostility and reality hostility.

The significant r for boys' home experience with television in Table 18 is due to a large positive relation for 4½-5½ year boys only. The r between television and number of conversation interactions was .76 for 4½-5½ year boys; the average r for boys of other ages was .08.

One relation shown in Table 18 may have a different meaning than the general findings. Boys had more conversation inter-

TABLE 18

AVERAGE CORRELATIONS BETWEEN PERCENTAGES OF DRAMATIC PLAY TOPICS CHECKED BY PARENTS FOR HOME SOURCES OF INFORMATION AND PEER SOCIAL INTERACTION SCORES FOR GIRLS AND BOYS

Home source of information	Peer social interaction scores				
	Association	Friendly approach	Conversation	All friendly (A + FA + C)	Hostile
Talk with father	.25 .23	.37* .17	.31 -.04	.34 .20	—
Talk with mother	.22 -.02	.39* -.04	.22 -.09	.32 -.03	—
Talk with other adults	—	—	—	.36 .10	.39** -.28*
Talk with children	.06 .08	.25 .14	.13 .36*	.17 .17	—
Personal experience	.46** .02	.47** .09	.35 .19	.50** .12	—
Books and stories	.31 .19	.25 -.03	.02 .03	.27 .12	—
Television	-.06 .14	.01 .15	.14 .38*	.00 .20	—
Four or more sources checked	—	—	—	.36 .22	.32 -.16

Note.—Boys' average *r*'s in italics.

* Sex difference in *r*'s is significant at .05 level.

* Significant at .05 level.

** Significant at .01 level.

actions with other children when parents checked more dramatic play topics for the information source of talk with other children. This source of information failed to relate to use of dramatic play language and hostility, as is shown in Table 17. Perhaps practice in talking with some children about topics of interest increases the child's ability to converse with other children from half a minute or longer.

Sociometric, Vocabulary, and Aggression Scores. Most average *r*'s, shown in Table 19, between home experiences with dramatic play topics and sociometric scores are not large enough for significance. However, three positive relations were significant when sex groups were combined: the average *r*'s for all children between sociometric scores and talk with father (.26), talk with children (.28), and four or more sources checked (.25). In direction and relative size, the *r*'s for sociometric scores resemble the *r*'s listed in Tables 17 and 18 for use

of dramatic play language and hostility and social interaction scores.

These data assist in the interpretation of already reported findings. Home experiences with dramatic play topics were associated with differences in two classifications of children's behavior with preschool peers that accompanied differences in social acceptance in the preschool group: frequency of use of dramatic play language and hostility and number of friendly interactions with peers. Home experiences with dramatic play topics have the positive relations with sociometric scores that could be predicted from the findings of the preceding sentence. The obtained *r*'s are not large enough to indicate that these relations are important in themselves and independent of associated variables. These relations, then, suggest that when adults make the effort to talk with the child about topics the child can use in play with other children, and when they provide varied experiences with these topics for the

child, the child is helped in ability to talk about and act out these topics in play with other children, and, indirectly, through this ability, to gain social acceptance in the group of children.

Relations between home experiences with dramatic play topics and vocabulary test scores of these children were not a replication of the positive relations found in earlier studies (e.g., Dawe, 1942). Relations for boys were in the predicted positive direction, but all relations for girls were negative, although not significant, as is shown in Table 19. The sources of home information relating significantly to vocabulary age of boys were those less closely associated with children's use of dramatic play language and hostility with peers: books and stories, television, and four or more sources of information checked. Information obtained about the children and their families is not suffi-

cient to explain these sex differences in relations. These differences are compatible with the findings of no relation between vocabulary age and use of language and hostility with peers, and of sex differences in relations between use of language and hostility and home experience with dramatic play topics.

Test aggression scores did not relate to the percentage of dramatic play topics checked for the first four home sources of information listed in Table 19. Relations were not determined for the other information sources.

Time for Stories, Records, and Television

The time parents reported that children listened to stories or to records did not change with the age of the child or differ with sex, according to analysis of variance tests. All children listened to stories for a mean of 23.14 minutes daily, and the standard deviation was 12.85 minutes. For the 92 children who listened to records at home, the mean time per day was 20.20 minutes, and the standard deviation was 19.13 minutes.

Daily time children spent watching television increased about a half hour with each year of age, as is shown in Figure 9. The four children who did not watch television were split equally between the two younger age groups. Time watching television did not differ with sex in analysis of variance tests. The standard deviations for each year group ranged from 30.07 to 34.44 minutes. Parents reported that the programs watched most frequently were *Captain Kangaroo* or *Romper Room* during the time between breakfast and leaving for preschool; children's programs scheduled from 4:00 to 6:00 PM; family, western, adventure, and musical programs from 6:30 to 8:00 PM; and 4 hours of programs on Saturday morning, such as *Superman*, *Mighty Mouse*, *Fury*, etc.

Relations for Time of Stories, Records, and Television

The time children spent listening to stories or records and watching television

TABLE 19

AVERAGE CORRELATIONS BETWEEN PERCENTAGES OF DRAMATIC PLAY TOPICS CHECKED BY PARENTS FOR HOME SOURCES OF INFORMATION AND TEST SCORES OF GIRLS AND BOYS

Home source of information	Test scores		
	Socio-metric	Vocabulary	Aggression
Talk with father	.35 .20	-.14 .26	.31 -.01
Talk with mother	.16 .18	-.12 .02	-.25 .08
Talk with other adults	.06 -.01	-.11 .20	.02 .00
Talk with children	.23 .33*	-.25 ^a .26 ^a	-.12 .16
Personal experience	.25 .02	-.15 .27	— —
Books and stories	.15 .25	-.04 .38*	— —
Television	.12 .29	-.06 .42**	— —
Story and music records	.09 .09	-.30 .17	— —
Four or more sources checked	.26 .22	-.31 ^a .52***	— —

Note.—Boys' average *r*'s in italics.

* Sex difference in relations is significant at .05 level.

* Significant at .05 level.

** Significant at .01 level.

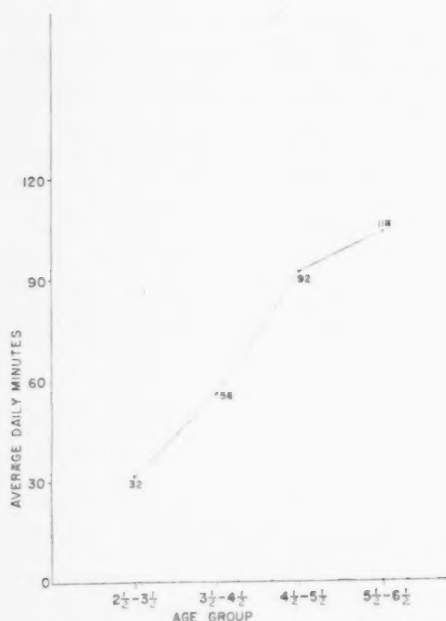


FIG. 9. Mean daily minutes children in each age group watched television.

at home related only sporadically to their preschool and test behavior. The amount of time spent at each activity correlated significantly, but not closely (average r 's from .32 to .34), with the percentage of dramatic play topics parents checked for these respective sources of information, and did not relate to other sources of information about these topics. These findings, combined with those for home experiences with dramatic play topics, suggest that during the preschool years, the subject matter of stories, records, and television is more important in determining consequent behavior than time spent at these activities.

The significant relations for time spent at these activities were the following:

1. Time for stories had an average r of .35 with the frequency of use of reality hostility by boys; for girls, this r was .02.

2. Time for records correlated positively with girls' use of dramatic play suggestion (.39) and dramatic play hostility (.55). The r for dramatic play hostility differed at the .05 level from that of -.01 for boys.

3. Time for records had an average r of .25 with number of conversation interactions in all age and sex groups.

4. Time for television had an average r of .60 with girls' use of reality greeting that differed at the .05 level from the .13 obtained for boys.

5. Time for television had an average r of .28 with vocabulary age in all age and sex groups.

Time Spent Talking with Family Members and Maids

The children of this study were "privileged" in the sense of much time devoted to their nurture. Talk with other people filled most of their waking hours at home, as is shown in Table 20. The time the child spent talking with home adults did not change with age or differ with sex in analysis of variance tests.

The time spent talking with mothers was distributed about equally over the days of the week. This time included being told to eat, or to get dressed, but it necessarily included many more topics. Five hours a day covers a great deal of conversation. During the interviews, most mothers expressed opinions to the effect that sharing their husbands' and children's home activities constituted their "jobs," welcome or not, and limited the time available for housework and social activities with other women.

TABLE 20

HOURS PER WEEK CHILDREN SPENT IN TALK WITH PEOPLE AT HOME

Family member	N children	Mean hours	SD	Range
Father	101	18.69	10.00	2-44
Mother	100	37.30	14.30	12-75
Siblings:				
Of 4 1/2-6 1/2 year groups	56	27.08	7.24	3.5-56
Of 2 1/2-4 1/2 year groups	38	3.83	2.22	3.5-63
Maid or baby sitter	83	8.42	7.82	1-31

The fathers actively participated in the home guidance of the children; their mean time of talking with the child was slightly more than half the mean time so spent by mothers. It was distributed as about 2 hours each week day, and about 7 to 10 hours on weekends. They expressed opinions during the interview that sharing activities with children was important for the child's development. Fathers devoting fewer than 5 hours a week to talk with their children were in specialized professions, such as psychiatry, brain surgery, and obstetrics. For the group as a whole, however, years of father's education did not relate to the time spent talking with the child.

Maids and baby sitters had an average of slightly more than an hour a day of talk with the child in the 81% of the homes using their services. This talking time was described usually as interactions necessarily occurring in the small space of houses, or as due to the child's interest in the maid's activities.

Children older than $4\frac{1}{2}$ years talked about seven times as long with their brothers and sisters as children younger than $4\frac{1}{2}$ years. This time difference, shown in Table 20, was not analyzed for age of siblings. It may indicate that siblings of younger children were too young to talk, as well as a lack of ability in these subjects to share activities with older siblings.

Some interrelations between the time spent talking with individuals at home support the idea that a short time talking with one family member was balanced by a longer time talking with other family members, as is shown in Table 21. When the children talked more with siblings, they talked less with mothers and maids, and vice versa. Other relations do not support this idea. Time spent in talk with father did not relate to time spent in talk with other family members, and time spent talking with mothers correlated positively with time spent talking with maids.

Relations for Time Spent Talking with Individuals at Home

Measures of Child Behavior. Increases in the time children spent talking with family

TABLE 21

INTERRELATIONS BETWEEN THE HOURS THAT FAMILY MEMBERS AND MAIDS TALKED WITH THE CHILDREN AS SHOWN IN AVERAGE CORRELATIONS FOR ALL AGE AND SEX GROUPS

Time of family member	Father's time	Mother's time	Siblings' time
Mother's time	.15		
Siblings' time	-.05	-.30*	
Maid's time	-.10	.31*	-.22

* Significant at .05 level.

members tended to accompany decreases in frequency of talk with peers and in number of social interactions with peers at preschool, according to the data presented in Table 22. This interpretation is based on consistency of the negative direction of relations; few r 's for these relations are large enough for significance.

In contrast, increases in the time children spent talking with maids or baby sitters accompanied increases in children's use of reality language, or of frequency of talk as themselves with peers. These r 's are large enough for significance, as is shown in Table 22. Positive relations for use of reality language with preschool peers have been rare in the data reported so far. Hence, these relations are not easily interpreted.

More talk with the maid at home apparently fostered the child's frequent use of a behavior with peers that is not essential in getting along with peers. Concurrent with the increase in children's use of reality language, behavior important to the child's acceptance by preschool peers decreased as children spent more time talking with the maid at home. The positive r 's for use of reality language differed at the .01 level from the significant average r 's of all age and sex groups between maid's time talking and use of dramatic play suggestion ($-.27$), and dramatic play agreement ($-.26$). Time spent talking with the maid cannot be described as contributing to the child's adjustment at preschool.

TABLE 22
AVERAGE CORRELATIONS BETWEEN TIME TALKED WITH PEOPLE AT HOME AND
OBSERVATION MEASURES OF PRESCHOOL BEHAVIOR FOR GIRLS AND BOYS

Observation measure	Father's time	Mother's time	Siblings' time	Maid's time
Dramatic play language:				
Suggestion	-.12	-.14	-.04 ^a	-.40**
	-.03	-.05	.02 ^a	-.19
Agreement	-.11	-.13	-.06	-.44**
	-.25	-.11	-.17	-.12
Hostility	-.21	.16	-.20	.04
	-.13	-.10	-.03	-.07
Reality language:				
Suggestion	-.18	-.04	.18	.19
	-.11	.32*	-.11	.33*
Agreement	-.15	-.11	.00	.45**
	.11	.12	-.20	.46**
Hostility	.13	.34*	-.28	.09
	.16	.26	-.26	-.08
Greeting	-.34*	-.06	.20	.31
	-.29	.06	-.15	.18
Question	-.02	-.13	.19	.35
	-.14	.20	.14	.30
Social interaction:				
Association	-.17	-.05	.03 ^a	-.21
	.03	-.20	-.08 ^a	-.18
Friendly approach	-.13	-.10	.09	-.14
	-.09	.01	-.18	-.07
Conversation	-.22	.15	.06	.05
	-.20	.01	-.08	-.03
All friendly (A + FA + C)	-.12	-.12	.12 ^a	-.12
	-.05	.10	-.14 ^a	.19
Hostile	-.13	.15	-.11	-.18
	-.12	.27	-.32*	.07

Note.—Boys' average *r*'s in italics.

* Age differences in relations are significant at .05 level.

* Significant at .05 level.

** Significant at .01 level.

These interpretations do not explain why the time children spent talking with the maid had closer relations with children's behavior than the time children spent talking with parents. It is doubtful that the speculations presented in the next paragraph apply to relations for time spent talking with maids.

The explanation of the negative direction of relations for time spent talking with family members probably is connected with "excessive" time. The average amount of time spent talking with family members was very large for these children, and the distributions had positive skews, as is shown in Table 20. On a purely speculative basis, excessive time talking with parents may

develop a high reward value for the child in talking with adults that inhibits the child's development of reward value for play with peers. For example, excessive time talking with parents may develop the child's expectations for consideration of his remarks and activities to a level seldom found away from parents, and particularly rare among age peers. In this instance, the child would be frustrated in almost every contact with preschool peers, and, hence, would have difficulty in reaching the level of social behavior of his age peers.

Age differences in relations for time spent talking with siblings are indicated in Table 22. In these relations, the direction was negative for children younger than 4½ years,

and positive for children older than 4½ years. More time spent talking with siblings accompanied less frequent dramatic play suggestion and fewer friendly interactions at preschool for children younger than 4½ years, but accompanied more frequent dramatic play suggestions and more friendly interactions at preschool for children older than 4½ years.

No average r 's were significant between time spent talking with persons at home and children's scores on the sociometric and vocabulary tests. Corresponding correlations were not computed for scores on the test of aggression.

Measures of Home Experiences. There was little evidence of relations between the time family members and maids spent talking with children and home experiences with the dramatic play topics of the preschool group. The only significant r was a positive .37 obtained for boys between time spent talking with father and the percentage of dramatic play topics checked for the information source of talk with father. Most correlations between time spent talking with family members and percentages checked for home information sources were close to zero in size and were inconsistent in direction. Correlations for time spent talking with the maid were small in size also, but had a consistent negative direction.

These data indicate that the time spent talking with family members and maids is independent of the child's home experiences with the dramatic play topics of the preschool group. They support the findings that time spent talking with persons at home relates negatively, if at all, to children's use of dramatic play language and hostility with peers, and to the number of social interactions with peers at preschool.

The time children spent listening to stories and records and watching television was not associated with the time spent talking with family members or maids.

Education of Parents

Years of education of the mother and father did not vary with the age and sex of the child, or with the preschool group, in

analysis of variance tests. Mean years of education of fathers were 16.74, or one year beyond a bachelors degree; the standard deviation was 2.77 years, and the range was from 12 to 23 years. Mean years of education of mothers were 15.15, or one year less than a bachelors degree; the standard deviation was 1.56 years, and the range was from 12 to 18 years. The level of education of both parents can be described as high. Variation within both groups was limited to the years after graduation from high school. These data indicate that the attempt to control socioeconomic status in this investigation was successful.

Relations between Education of Parents and Measures of Child Behavior and Home Experiences

Few differences in child behavior measures were associated with differences in years of education of parents. Failure to find such relations is expected when socioeconomic status is controlled within one level, as in this investigation. The significant exceptions to the general trend were the following relations:

1. Sociometric scores had an average r of .25 with father's education for all age and sex groups, but did not relate to mothers' education.
2. The average r 's were both $-.27$ between years of education of the mother and father, and children's use of reality language to greet preschool peers and adults.
3. Frequency of dramatic play hostility of girls increased as mothers' education increased (.26), while the opposite relation was found for boys ($-.28$).

Education of mothers, but not of fathers, related positively to the percentage of dramatic play topics parents checked for three home sources of information for these children: talk with mother, talk with children, and books and stories. These average r 's for all age and sex groups ranged from .35 to .39. Mothers' control of these sources of information can be described as influenced by the extent of their education.

The time spent listening to stories and records did not relate to education of par-

ents. The time girls spent watching television at home related negatively ($-.49$) to education of both parents.

Summary

Data presented in this section disclosed a possible way for parents to help their child in social adjustments to peers at preschool. They suggest that if parents and adults talk with the preschool child about more of the topics the child can use in play with other children, the child talks about and plays these topics more frequently with preschool peers, and has a better chance of social acceptance in the preschool group.

As children had more home experience with more of the dramatic play topics of the preschool group, their use of dramatic play language and hostility with preschool peers increased, and there was an increase in the number of their social interactions with peers. Correlations were largest for three home sources of information: talk with father, talk with mother, and talk with other adults. These sources, with personal experience, talk with children at home, and viewing television, were those checked most frequently by parents as providing information about dramatic play topics of the preschool group.

Sex differences, suggesting these relations described experience for girls better than for boys, may have been due to an unusual sample of boys and their parents. Boys had many more opportunities at home to learn about dramatic play topics than girls and had a very high level of social interaction with peers.

Additional evidence that the dramatic play classification includes different behavior than the reality classification was furnished by relations for home experiences with dramatic play topics. In contrast to the positive relations between these experiences and the dramatic play classifications, children's use of reality language and hostility either decreased or was not affected by these experiences; the exception, as in preceding sections, was for girls' use of reality hostility.

Home experiences with dramatic play topics related positively to the vocabulary age of boys, but these relations were negative for girls.

There was some evidence, although not demonstration, that as the time children spent talking with family members increased, they talked less frequently and had fewer interactions with peers at preschool. Time spent at home in talk with the maid had positive relations with children's use of reality language and negative relations with children's use of dramatic play language at preschool. Time spent at home listening to stories and records, and watching television, did not enter into consistent relations with children's preschool and test behavior. Time measures did not relate to measures of home experiences with dramatic play topics.

Few differences in child behavior were associated with differences in years of education of parents, undoubtedly because of the control of socioeconomic status in this investigation.

The children in this sample had much time of adults devoted to their nurture. Mothers spent a mean of 37 hours and fathers spent a mean of 19 hours in talk with the children each week. Stories were read to the children for a mean of 23 minutes daily at home, and most children listened to records for an equivalent length of time. The time children watched television increased about half an hour with each year of age.

Relation of PARI Scores of Parents to Measures of Children's Behavior with Age Peers and of Home Experiences

There is a widely held supposition that parents' attitudes affect their child's behavior. Attitudes of parents were included among home experiences in this investigation as an attempt to test that supposition. The most recently developed test of parent attitudes at the time of initiation of this study was the Parental Attitudes Research Instrument. This test, according to the authors, Schaefer and Bell (1955, pp. 3-4;

1958, p. 346), includes items in its "pathogenic" scales that "state attitudes contrary to the usually approved child-rearing opinions." It was conjectured that parents' scores on these scales would relate to children's hostile interactions, and might relate to other aspects of children's social behavior.

Parents' Scores on the PARI

Parents' checks indicating mild or strong agreement or disagreement with items included in the PARI scales were given point values and summed to furnish scores for the single scales (listed in Table 24). The five PARI composite scales, listed in Table 23, are the five general attitudes derived by Schaefer and Bell from a study of the factorial structure of the PARI. Parents' scores on the PARI composite scales are the sum of their points on the five to eight related scales included in each composite, and listed in the method section.

The parents of this investigation disagreed with most pathogenic scales of the PARI. Mean scores of parents were on the disagreement side (below) of the midpoint of all composite scales except that listed second, Unhappiness at Home, as is shown in Table 23. Mean scores were in the strong disagreement range for the Suppression and Distance scale, and in the mild disagreement range for the remaining three scales. Most of these parents, then, agreed with "usually approved child-rearing opinions."

Scores of fathers did not differ from scores of mothers on any composite scale except Unhappiness at Home, according to analysis of variance tests. Mothers' agreement with the statements included under Unhappiness at Home was stronger (.001 level) than that of fathers. Agreement of both parents with this scale decreased (.05 level) as the age of the child increased. These results are in line with the common sense idea that the restrictions of child rearing are more irksome to parents, particularly mothers, when the children are younger. This was the only composite scale that related to the age of the child.

Parents of boys disagreed more strongly with the Suppression and Distance scale (.05 level) and the Overpossessiveness scale (.01 level) than parents of girls. These findings agree with generally held opinions that parents allow boys to have a greater freedom of expression than girls, and encourage independence more in boys than in girls. Parents' scores on the other three composite scales listed in Table 23 did not differ with the sex of the child.

Agreement between fathers and mothers in the same family was not particularly high on either single or composite PARI scales, as is shown in Table 24. The size of many correlations suggests that the mothers and fathers who agreed about these attitudes didn't happen to be married to each other. Inspection of all correlations suggests that the degree of agreement depended in part

TABLE 23

MEAN SCORES ON PARI COMPOSITE SCALES FOR 41 FATHERS AND 46 MOTHERS OF GIRLS AND FOR 52 FATHERS AND 54 MOTHERS OF BOYS, AND THE STANDARD DEVIATIONS FOR ALL PARENTS

PARI composite scale	Midpoint of scale	Girls		Boys		SD ^a of all parents
		Fathers	Mothers	Fathers	Mothers	
Suppression and distance	70	42.56	40.26	40.13	37.92	8.04
Unhappiness at home	50	60.32	65.48	61.21	65.61	8.66
Demand for striving	50	51.00	47.80	50.46	48.02	12.25
Overpossessiveness	50	47.51	47.91	44.65	45.72	6.71
Harsh punitive control	80	80.71	76.09	76.90	75.42	16.37

^a Standard deviations were derived from *MS_e* of analyses of variance.

on the attitude tested. More agreement between mothers and fathers was found on scales emphasizing strong or punitive control of undesired behavior of children and of children's recognition of parents' authority. Lack of agreement occurred on scales concerned with parents' roles in guiding the development of "desired" behavior

in children, and with the role of either parent in promoting or discouraging family harmony, functions, or activities.

Children's Display of Hostility to Peers

The conjecture that parents' scores on the pathogenic PARI scales would relate to children's display of hostility to peers is shown to be a finding of this investigation by the data in Table 25. Four of the PARI composite scores of fathers related to some observed manifestation of hostility of their children at preschool, and two PARI composite scores of mothers entered into significant relations with the measures of child hostility.

Punitive Control Scales. Boys and girls were more hostile at preschool when both mothers and fathers agreed more (or disagreed less) with items included in the Demand for Striving and Harsh Punitive Control scales. This relation was found for all three classifications of children's hostility, and can be described as the most general of the relations shown in Table 25.

Additional generality is suggested by the similarity of the scales included in the two composite scales. Four of the five scales combined in the Demand for Striving composite scale were included among the eight scales combined in the Harsh Punitive Control composite scale (Scales 2, 3, 4, and 17 of the single scales listed in Table 24). Relations for both scales, then, indicate that the children who were hostile more frequently to their preschool peers had parents who favored punitive control in making demands of their children, while children who showed less hostility to preschool peers had parents who disagreed with ideas of punitive control of children and, presumably, favored other methods of guidance.

These results support psychological hypotheses that punishment leads to aggression. They also support hypotheses that when an aggression drive is a consequence of parents' punitive control, it will be expressed or displaced to persons other than (or, as well as) parents. These findings are unusual in demonstrating a displacement

TABLE 24

PRODUCT-MOMENT CORRELATIONS BETWEEN PARI
SCORES OF FATHERS AND PARI SCORES OF
MOTHERS FOR GIRLS AND BOYS

PARI scale	41 par- ents of girls	50 par- ents of boys
Composite scales:		
Suppression and distance	.03	.40**
Unhappiness at home	.27	.31*
Demand for striving	.46**	.64**
Overpossessiveness	.17	.30*
Harsh punitive control	.59**	.47**
Single scales:		
1. Encouraging verbalization	.17	.34*
2. Breaking the will	.39*	.42**
3. Strictness	.39*	.38**
4. Deification of parents	.55**	.47**
5. Suppression of aggression	.21	.29*
6. Equalitarianism	.29	.31*
7. Approval of activity	.30	.25
8. Avoidance of communication	-.03	.29*
9. Suppression of sex	-.04	.11
10. Comradeship and sharing	.23	.10
11. Deceit of child	.47**	.32*
12. Harsh punishment	.38*	.29*
13. Expressing love and affection	.17	.07
14. Autonomy	.04	.15
15. Intrusiveness	.19	.29*
16. Marital conflict	.25	.59**
17. Excluding outside influences	.27	.34*
18. Fostering dependency	.46**	.26
19. Irritability	.17	.89**
20. Seclusion of parent	.37*	.17
21. Rejection of homemaking role	-.16	.19
22. Considerateness of spouse	-.08	.19
23. Ascendancy of answering parent	-.03	.18
24. (Father) Disapproval of as- cendancy of mother (Mother) Dependence of mother	.25	.07

* Significant at .05 level.

** Significant at .01 level.

TABLE 25

AVERAGE CORRELATIONS BETWEEN PARENTS' SCORES ON PARI COMPOSITE SCALES AND OBSERVATION MEASURES OF CHILDREN'S HOSTILITY TO PEERS

PARI composite scale	Use of dramatic play hostility		Use of reality hostility			Number of hostile interaction	
	Girls	Boys	Girls	Boys		Girls	Boys
				(All but 4½)	(4½-5½ years)		
Scores of fathers:							
Suppression and distance	-.27	.06	-.12	.29	-.25	-.16	.04
Unhappiness at home	.08	.18	.11	.64**	.18	.10	.04
Demand for striving	.19	.01	.34*	.69**	.13	.20	.40**
Overpossessiveness	-.50**	-.34*	.14	.25	-.39	-.09	-.50**
Harsh punitive control	.04	.34*	.32*	.65**	.04	.22	.33*
Scores of mothers:							
Suppression and distance	-.14	.19	.11	.08	-.28	-.02	.10
Unhappiness at home	.08	.06	.19	.19	.21	.17	.08
Demand for striving	.16	-.03	.25	.41*	-.22	.41*	.18
Overpossessiveness	-.03	-.16	-.01	.04	-.21	.14	-.03
Harsh punitive control	.20	.04	.27	.35*	.09	.45**	.26

* Significant at .05 level.

** Significant at .01 level.

to age peers in preschool play. This specific displacement was not found by Sears et al. (1953) in the study most comparable to the present investigation. In that study, ratings of the punitiveness of 40 mothers did not relate significantly to ratings of their children's aggression at preschool. Sears et al. hypothesized that their child subjects were too anxious about being punished for aggression to peers to be able to make this displacement of the aggression drive. By that hypothesis, the children of the present investigation were not afraid to be hostile to peers. It is generally believed that nursery school procedures have shifted in the direction of less teacher interference in children's conflicts during the years since the Sears et al. data were collected (1948-49). This may have reduced fear of punishment for hostility to peers and may explain part of the difference in results. Probably more important in explanation of the contradictory results, however, are (a) the differences in measures of both parent and child behavior, particularly the separation

of child hostility into the dramatic play and reality classification of the present investigation; (b) the wider child age range of the present investigation; and (c) the inclusion of behavior of fathers, as well as of mothers, in the present investigation. Reasons for considering these aspects to be more important are the findings reported in the next few paragraphs.

Children's use of hostility in their own behalf had more and closer relations with the punitive control scores of parents than their use of hostility to carry out the roles of dramatic play or the number of their hostile interactions with peers. Six of the eight correlations between the two punitive control scales and use of reality hostility were significant, while only one correlation for dramatic play hostility was large enough for significance, as is shown in Table 25. Correlations between punitive control scores of parents and the number of children's hostile interactions with peers are those that could be expected from the combination of relations for use of dramatic play and

reality hostility, with one sex of child and sex of parent exception.

The support for the hypothesis, then, depends primarily on relations demonstrated for the frequency of use of reality hostility in preschool play. These relations suggest modification of the general finding to the following: As parents' agreement with statements favoring punitive control of children increases, the frequency of their children's use of hostility to establish or defend their "rights" with age peers increases. This relation is accompanied by an increase in the number of hostile interactions with other children, and, for boys, by an increase in use of dramatic play hostility (which correlated positively with use of reality hostility for boys).

The exceptions to this modified generalization were the $4\frac{1}{2}$ - $5\frac{1}{2}$ year boys who displayed more of all kinds of hostility to peers at preschool than children in the other age and sex groups. Variations in the high frequency of use of reality hostility by boys aged $4\frac{1}{2}$ - $5\frac{1}{2}$ years did not relate to PARI scores of parents, as is shown in Table 25. The differences between r 's for $4\frac{1}{2}$ - $5\frac{1}{2}$ year boys and r 's for boys of other ages were significant beyond the .05 level for fathers' scores on the Demand for Striving and Harsh Punitive Control scales, and for mothers' scores on the Demand for Striving scale. Clearly, parents' attitudes toward punitive control of children had little influence on the frequent reality hostility shown to peers by $4\frac{1}{2}$ - $5\frac{1}{2}$ year boys. An implication that can be drawn from this finding is that adult attempts to reduce the hostility of $4\frac{1}{2}$ - $5\frac{1}{2}$ year boys are doomed to failure. The hypothesis was presented earlier that the high level of hostility of $4\frac{1}{2}$ - $5\frac{1}{2}$ year boys is a problem of development or of culture, rather than an individual difference among children. This age difference in relations supports that hypothesis.

Relations between hostile interaction scores of children and the punitive control scores of parents also were not the same for $4\frac{1}{2}$ - $5\frac{1}{2}$ year boys and boys of other ages, although age differences of this type were not found for similar relations with dramatic play hostility. The age differences in

r 's for hostile interaction scores were large enough to be significant for only one relation, as would be anticipated for the combined relations of dramatic play and reality hostility. The r between hostile interaction scores and mothers' scores on the Harsh Punitive Control scale was $-.19$ for $4\frac{1}{2}$ - $5\frac{1}{2}$ year boys, while for boys of other ages the average r was .46 and significant.

The age differences in these relations for boys can account for part of the failure to find relations in the Sears et al. study. Their child subjects had an initial age range from 3-4 to 5-5 years.

Sex of child and sex of parent differences in degree of relation are apparent in inspection of Table 25. More relations for fathers' PARI composite scores and for boys' hostility to peers are significant than for mothers' scores and for girls' hostility to peers. If fathers had not been used as subjects of this investigation, relatively little support would have been furnished to the hypothesis that punishment leads to aggression.

In relations between the number of hostile interactions and the punitive control scales, there was a tendency for correlations to be larger when the parent was of the same sex as the child. This tendency was not found in relations for dramatic play and reality hostility. The sex of parent differences in relations with hostile interaction scores may be indicative of sex typing and identification with the parent of the same sex. They were found throughout the age range from $2\frac{1}{2}$ to $6\frac{1}{2}$ years, excepting an age difference for boys in relations with mothers' scores mentioned in preceding paragraphs.

The tendency for children to show more reality hostility in preschool play when parents agreed more with ideas favoring punitive control is found also in correlations for the single scales shown in Table 26. Relations for four of the five scales in the Demand for Striving composite (2, 3, 4, 7, and 17) were significant and similar to those shown for this composite scale in Table 25. Relations for five of the eight scales in the Harsh Punitive Control composite (2, 3, 4, 12, 17, 19, 20, and 23) have this resemblance, also.

The differences in relations for $4\frac{1}{2}$ - $5\frac{1}{2}$ year boys and other boys are less apparent in Table 26 for the single scales entering into the two punitive control composites, than for the composite scales in Table 25. An exception to the resemblance occurred for mothers' agreement with items on the Harsh Punishment scale (No. 12). In this instance, the relation was positive and significant for $4\frac{1}{2}$ - $5\frac{1}{2}$ year boys, but lacked significance for boys of other ages and for girls.

Correlations for scores of fathers on other scales in Table 26 suggest a pattern of relations similar to those proposed by Mussen and Distler (1960) as possible antecedents of identification in boys: the fathers' influence on their sons includes both reward and punishment. Greater agreement by these fathers with the items of Approval of activity, Comradeship and sharing, and Autonomy scales accompanied a higher level of reality hostility in their sons. These positive relations for use of reality hostility

TABLE 26
PRODUCT-MOMENT CORRELATIONS BETWEEN PARENTS' SCORES ON SINGLE PARI SCALES AND THE FREQUENCY OF USE OF REALITY HOSTILITY BY GIRLS, BY BOYS AGED $4\frac{1}{2}$ - $5\frac{1}{2}$ YEARS, AND BY BOYS OF OTHER AGES

PARI scale	Fathers' scores and reality hostility			Mothers' scores and reality hostility		
	Girls	Boys		Girls	Boys	
		All but $4\frac{1}{2}$	$4\frac{1}{2}$ - $5\frac{1}{2}$ years		All but $4\frac{1}{2}$	$4\frac{1}{2}$ - $5\frac{1}{2}$ years
1. Encourage verbalization	-.09	.28	.18	.07	-.10	.12
2. Breaking the will	.32*	.41*	.02	.23	.21	-.12
3. Strictness	.20	.34*	.27	.03	.14	-.23
4. Deification of parent	.35*	.18	.10	.32*	.31	.28
5. Suppression of aggression	.16	-.16	-.47	-.18	-.08	.14
6. Equalitarianism	.18	.09	.42	-.07	.06	.17
7. Approval of activity	.17	.61**	.38	.08	.45**	-.14
8. Avoidance of communication	.01	.52**	-.04	.27	.31	.07
9. Suppression of sex	-.05	.09	.03	-.08	-.13	-.26
10. Comradeship and sharing	.20	.67**	.33	.17	.25	.11
11. Deceit of child	-.02	.63**	.38	.00	.28	-.34
12. Harsh punishment	.34*	.36*	.12	.11	.22	.51*
13. Expressing love	.08	-.02	.40	.11	.21	.35
14. Autonomy	.14	.51**	.13	-.02	.30	.11
15. Intrusiveness	.39*	.22	-.23	.15	.26	-.17
16. Marital conflict	.08	-.12	.14	.00	.20	.14
17. Excluding outside influences	.08	.26	.01	.21	.22	.03
18. Fostering dependency	.20	-.20	-.15	.02	.11	.23
19. Irritability	.03	-.07	.08	.32*	.03	.17
20. Seclusion of mother	.24	.04	-.23	-.14	.14	.06
21. Rejection of homemaking role	-.08	.04	.02	.04	-.10	.29
22. Considerateness of spouse	.25	.21	-.21	.03	.18	.17
23. Ascendancy of parent	.12	.11	.10	.17	.27	-.32
24. (Father) Disapproval of ascendancy of mother	.47**	.06	.77**	.06	.19	.42
Dependence of mother						

* Significant at .05 level.

** Significant at .01 level.

occurred at the same time as the positive relations between use of reality hostility and punitive control scores of fathers.

Overpossessiveness. Relations between parents' scores on the Overpossessiveness composite scale and children's observed hostility to peers were not the same as those between parents' scores on punitive control scales and children's hostility. The relations differed in direction and in the type of hostility most affected by parents' scores, as is shown in Table 25. When fathers, but not mothers, agreed more with the ideas of the Overpossessiveness composite scale, children's use of hostility to carry out the roles of dramatic play decreased, the number of hostile interactions of boys decreased, and children's use of reality hostility did not change, except in a nonsignificant trend toward an increase. Parents' attitudes about overpossessiveness related negatively to children's use of dramatic play hostility, then, while parents' attitudes about punitive control related positively to children's use of reality hostility. These are major differences in meaning for the dramatic play and reality classifications.

The sex of parent differences in relations for the Overpossessiveness scores probably is connected with the time these parents spent talking with their children, particularly since these fathers did not differ from mothers in agreement with this scale. The time spent talking with the child by the average mother of this investigation, 37 hours a week, would be considered by many to be excessive and indicative of overpossessiveness. Speculatively, these children may not have been able to detect or be affected by the differences in overpossessiveness attitudes of mothers. On the other hand, the fathers spent enough time talking with the children to impress their attitudes upon the children, but it was only about half the time so spent by mothers.

These speculations are about between-group tendencies, and the following relations within the groups may not be a test of the speculations. Correlations between parents' scores on the PARI composite scales and the time family members and maids spent talking with the children were not in line with these speculations. Only

TABLE 27
AVERAGE CORRELATIONS BETWEEN PARENTS' SCORES ON PARI COMPOSITE SCALES AND THE FREQUENCY OF CHILDREN'S USE OF DRAMATIC PLAY AND REALITY LANGUAGE WITH PRESCHOOL PEERS

Scale	Use of dramatic play suggestion			Use of reality language			
	Girls	Boys	<i>p</i> of sex difference in <i>r</i> 's	Suggestion		Agreement	
				Girls	Boys	Girls	Boys
Scores of fathers:							
Suppression and distance	-.49**	.09	.05	.01	.03	.24	.10
Unhappiness at home	-.11	.40**	.01	.01	.02	.17	-.06
Demand for striving	-.26	.28	.01	.04	.15	.18	.14
Overpossessiveness	-.27	.04	<i>ns</i>	.05	-.14	.42*	.15
Harsh punitive control	-.22	.30	.05	.07	.01	.21	.12
Scores of mothers:							
Suppression and distance	-.07	.09	<i>ns</i>	.05	.05	-.08	.02
Unhappiness at home	.06	-.02	<i>ns</i>	.23	.06	.21	.19
Demand for striving	-.04	-.01	<i>ns</i>	.29*	.07	-.19	.33*
Overpossessiveness	-.24	-.03	<i>ns</i>	.00	.16	-.04	.20
Harsh punitive control	.03	.06	<i>ns</i>	.06	.28*	.17	.19

* Significant at .05 level.

** Significant at .01 level.

4 of the 80 possible correlations were large enough for significance.

Use of Language with Peers

Very few relations were found between parents' PARI composite scores and children's use of language with peers, shown in Table 27, as compared with those obtained for use of hostility with peers, shown in Table 25. The differences in number of relations with PARI scores denotes a difference in meaning between children's friendly and hostile behavior that was not indicated by relations between aspects of children's social behavior, or by relations with other home experiences.

Dramatic Play Language. The most evident consistency in the data of Table 27 is the sex of child difference in relations between fathers' PARI composite scores and use of dramatic play suggestion. Fathers' agreement with the ideas of the PARI scale seems to have inhibited or depressed girls' expression of ideas in dramatic play at preschool, but not to have affected or to have encouraged boys' use of dramatic play language. The sex difference was significant for relations of four of the five fathers' composite scores, and is not apparent for any scores of mothers.

The fact that significant correlation among these negative relations was for the Suppression and Distance scale has added implications. The mean score of all parents strongly disagreed with this scale, as is shown in Table 23. The only father in the sample whose score indicated agreement (three points above the midpoint) was the father of a boy. In the disagreement range from 35 points to the midpoint of 70, there were two fathers of girls with scores of 60 or higher, and five additional fathers with scores between 50 and 59 points. The other 34 fathers of girls had scores in the remaining 15 point range of strong disagreement. The significant relation was obtained, then, for an extremely narrow range of disagreement with the ideas of the Suppression and Distance scale. To express the implication of this relation in positive terms: extremely small increases in

fathers' mild to strong approval of their daughters' expression of ideas accompanied fairly large increases in the frequency of their daughters' suggestions during dramatic play at preschool.

The relations in Table 27 have the implication that girls are more easily cowed by fathers' expression of opinion discouraging expression of ideas, than by mothers' expression of the same opinion, and that they are more easily cowed than boys by either parents' expression of these opinions. Speculatively, these consequences could result from the development of a strong desire within girls to please their fathers. This could occur through imitation of the mother's behavior as well as through an Electra complex. It could also be developed or reinforced through direct training at home and elsewhere. Preschool girls are not considered too young to be told by sundry adults in their world, "You are a girl, so you must learn to please men." Preschool boys are urged to please their mothers, but not women in general.

There are, however, other explanations for these sex differences in relations. The finding that home experiences with dramatic play topics related to girls' use of dramatic play language and hostility more frequently than to these measures of boys' behavior was given a different explanation in the preceding section. It was described as perhaps due to the high levels of both behaviors for the sample of boys and their parents. This explanation may apply also to the sex differences in relations between PARI scores and use of dramatic play language.

Additionally, parents' scores on the PARI may indicate factors affecting the provision of home experiences with dramatic play topics for the child, and so have a multiple relation effect on the child's behavior. Credence can be given to this explanation of the sex differences in relations with fathers' PARI scores, as shown by the data presented in Tables 28 and 29. Home experiences with dramatic play topics decreased for girls when parents agreed more with the PARI scales, but parents' agreement accompanied no change or an increase in these experiences for boys. These sex

TABLE 28

AVERAGE CORRELATIONS BETWEEN FATHERS' SCORES ON PARI COMPOSITE SCALES AND THE PERCENTAGES OF DRAMATIC PLAY TOPICS CHECKED FOR HOME SOURCES OF INFORMATION BY PARENTS OF GIRLS AND BOYS

Home source of information	PARI composite scale				
	Suppression and distance	Unhappiness at home	Demand for striving	Overpossessiveness	Punitive control
Talk with father	-.06 <i>.03</i>	-.17 <i>.04</i>	-.06 <i>.24</i>	.06 <i>.16</i>	-.06 <i>.21</i>
Talk with mother	-.17 <i>.07</i>	-.06 <i>.05</i>	-.17 <i>.03</i>	-.37* <i>.08</i>	-.22 <i>.04</i>
Talk with children	-.33 <i>.12</i>	-.14 <i>.25</i>	-.30 ^a <i>.23^a</i>	-.24 <i>.15</i>	-.29 <i>.12</i>
Personal experience	-.24 <i>.02</i>	-.18 <i>.19</i>	-.20 <i>.26</i>	-.37* <i>.05</i>	-.26 ^a <i>.33^a</i>
Books and stories	-.47** <i>.14</i>	-.22 <i>.03</i>	-.43** <i>.10^a</i>	-.42** <i>.21^a</i>	-.47** <i>.08</i>
Television	-.14 <i>-.02</i>	-.03 <i>.04</i>	-.31 ^a <i>.42^a**</i>	-.41 ^a <i>.21^a</i>	-.22 ^a <i>.35^a**</i>

Note.—Boys' average *r*'s in italics.

* Sex difference in average *r*'s is significant at .05 level.

* Significant at .05 level.

** Significant at .01 level.

TABLE 29

AVERAGE CORRELATIONS BETWEEN MOTHERS' SCORES ON PARI COMPOSITE SCALES AND THE PERCENTAGES OF DRAMATIC PLAY TOPICS CHECKED FOR HOME SOURCES OF INFORMATION BY PARENTS OF GIRLS AND BOYS

Home source of information	PARI composite scale				
	Suppression and distance	Unhappiness at home	Demand for striving	Overpossessiveness	Punitive control
Talk with father	-.13 <i>.05</i>	.18 ^a <i>-.35**</i>	.05 <i>-.03</i>	.07 <i>-.05</i>	-.03 <i>-.19</i>
Talk with mother	-.16 <i>.07</i>	-.01 <i>.02</i>	-.33 <i>.05</i>	-.08 <i>.18</i>	-.14 <i>-.12</i>
Talk with children	-.31 <i>.02</i>	.33 <i>.15</i>	-.20 <i>.07</i>	-.25 <i>.01</i>	-.15 <i>-.08</i>
Personal experience	.25 <i>.21</i>	-.05 <i>.19</i>	-.05 <i>-.04</i>	.04 <i>.01</i>	.00 <i>-.01</i>
Books and stories	-.33 <i>.16</i>	-.09 <i>.04</i>	-.42* <i>.11</i>	-.07 <i>-.14</i>	-.36 <i>-.17</i>
Television	-.16 <i>.26</i>	.27 <i>-.01</i>	-.08 <i>.11</i>	.15 <i>.09</i>	.08 <i>.14</i>

Note.—Boys' average *r*'s in italics.

* Sex difference in average *r*'s is significant at .05 level.

* Significant at .05 level.

differences in relations between parents' attitudes and their provision of home experiences for the child resemble the relations shown in Table 27 between PARI scores of fathers and children's use of dramatic play suggestion. In both instances, sex differences in relations are more often significant for fathers' than for mothers' PARI scores.

The significant sex differences in Table 28 may specify the home sources of information most affected by parents' attitudes. Girls' opportunities to learn about the dramatic play topics of the preschool group through the information sources of books and stories, television, and personal experience were less than those of boys when fathers agreed more with PARI composite scales.

An attempt was made to determine the relative importance of home experiences with dramatic play topics and PARI scores in their opposing relations with children's use of dramatic play language. Partial correlations were computed between

a. Children's use of dramatic play suggestion

b. Dramatic play topics checked by parents for the home information source of personal experience

c. Fathers' scores on the Harsh Punitive Control scale.

For girls, the partial r 's were $r_{ab.c} = .38$, $r_{ac.b} = -.38$, and $r_{bc.a} = -.40$. In this instance, neither home experience was partialled out as unimportant. For boys, the partial r 's were $r_{ab.c} = .12$, $r_{ac.b} = .22$, and $r_{bc.a} = .29$, and are too small to indicate relations. The relative importance of PARI scores and home experiences with dramatic play topics for children's use of dramatic play language was judged to be impossible to determine from the data of this investigation.

Correlations for mothers' scores on the Unhappiness at Home and Overpossessiveness scales are not in line with trends for other relations in Table 29. The significant relation for mothers' Unhappiness at Home scores indicates that boys had fewer opportunities to learn from fathers as mothers agreed more with this scale. Speculatively,

the usual trends might be reversed, as in this instance, if the father emphasized "pleasing the unhappy mother" more than other aspects of family living.

Significant age differences in relations reduced the size of sex group correlations for the Overpossessiveness scale in Table 29. When mothers agreed more with the ideas of Overpossessiveness, younger children had fewer opportunities and older children had more opportunities to learn about dramatic play topics from talking with both parents.

Relations between children's use of dramatic play suggestion and parents' scores on single PARI scales resembled those for composite PARI scales but were not large enough for significance. Five of 96 average r 's were significant, and this occurrence can be described as possible by chance.

Reality Language. The few significant relations between PARI composite scores of parents and children's use of reality language, shown in Table 27, resemble on a lesser scale those found with children's use of reality hostility in Table 25. Children's use of reality suggestion and agreement with peers tended to increase as either parent agreed more with the Demand for Striving and the Harsh Punitive Control scales. These relations for use of reality language, combined with those demonstrated for time spent talking with the maid, suggest that increased frequency of use of reality language with peers may have "undesirable" connotations, as well as being nonessential to getting along with peers at preschool.

Similar relations were suggested, non-significantly, in the average r 's for parents' scores on the 24 PARI scales.

Relations between two other measures of use of reality language and PARI scores resemble on a *larger* scale those found for children's use of reality hostility, as is shown in Table 30. The measures of use of reality greeting and reality question combined the frequency of use with both children and teachers that was separated for other measures of the dramatic play and reality classifications. This characteristic may influence the size of the correlations.

TABLE 30

AVERAGE CORRELATIONS BETWEEN PARENTS' SCORES ON PARI COMPOSITE SCALES AND CHILDREN'S USE OF REALITY GREETING AND REALITY QUESTION DURING PRESCHOOL PLAY

PARI composite scale	Reality greeting		Reality question	
	Girls	Boys	Girls	Boys
Scores of fathers:				
Suppression and distance	.50**	.18	.24	.22
Unhappiness at home	.37**	-.09*	-.11	-.02
Demand for striving	.41**	-.10*	.20	.05
Overpossessiveness	.35**	-.19*	.19	.16
Harsh punitive control	.49***	-.05*	.20	.15
Scores of mothers:				
Suppression and distance	-.11	.02	.12	.21
Unhappiness at home	.27	.06	.00	-.06
Demand for striving	.15	.01	.51**	.23
Overpossessiveness	.15	.06	.36*	.34*
Harsh punitive control	.21	.05	.45**	.24

* Sex difference in average r 's is significant at .05 level.

* Significant at .05 level.

** Significant at .01 level.

Girls' use of reality language to say "Hello" to children and teachers during preschool play increased as their fathers agreed more with all five PARI composite scales, while boys' use of reality greeting decreased in these circumstances, and no relations were significant for mothers' composite scores. Use of reality greeting failed to relate to other aspects of children's behavior, but has been shown to decrease as the child learned about more dramatic play topics of the preschool group from other children and from books and stories, and as mothers' education increased. These relations, and the positive relations with all five pathogenic scales, shown in Table 30, suggest that frequent use of reality greeting at preschool may indicate difficulties at home for the girl, rather than "good manners." Sex of child and sex of parent differences in relations could be explained, then, by the three possibilities cited for sex differences in relations of PARI scores with dramatic play language.

Children's use of reality language to question children and adults has been shown to relate in the same way to children's behavior and home experiences as other

categories of the reality classification. This resemblance is found again for reality questions in the relations with PARI composite scales, as is shown in Table 30. The apparent sex of child and sex of parent differences in these relations were not significant. These relations signify that children ask more questions of children and teachers during preschool play when their parents favor punitive control and overpossessive attitudes about rearing children. Presumably, then, this use of questions has a greater emotional content for the child than is usually assigned to questions asked to satisfy curiosity.

These children's tested vocabulary knowledge lacked the emotional meaning that relations with PARI scores denote for use of reality questions. Correlations between children's scores on the vocabulary test and fathers' scores on the PARI composite scales ranged from $-.07$ to $.11$, while for mothers' scores, the range was from $-.26$ to $.26$.

Social Acceptance and Participation at Preschool

A glance at the relations for sociometric scores in Table 31 should dispel any notion

that the parents' scores on the PARI relate principally to undesired aspects of children's preschool behavior. Sociometric scores of boys and girls related significantly in opposite directions to fathers' scores on three PARI composite scales. Relations for mothers' scores were similar to those for fathers' scores, but less frequently significant.

Social acceptance in the preschool group had as close relations with parents' scores on the pathogenic PARI scales as those reported earlier for children's use of reality hostility with peers. Parents' scores on these scales, then, related as closely to a desired characteristic for children as the hostility thought to be engendered by these parent attitudes. The relations for social acceptance are more complicated, because the close relations are in a negative direction for girls, and in a positive direction for boys, but are not less important than those with children's display of hostility.

The sex difference in relations is clearer when relations are described positively for both sexes. Girls were more acceptable to their preschool peers when parents more

strongly favored encouraging their daughters to express ideas with as little control as possible, and also favored procedures of guidance that did not include punishment. On the other hand, boys were more acceptable to their preschool peers when parents agreed more with the ideas of suppression of expression and punitive control to enforce demands.

These sex of child differences in relations occurred for a group of parents who had a relatively small range of divergence from the average attitude of disagreement with the ideas of several of the PARI composite scales. Minor differences in attitude, then, were associated with large differences in the social acceptability of their sons and daughters at preschool.

These differences in relations suggest that girls benefit more than boys from increased parental agreement with the "permissive" guidance procedures favored by most of these parents. The parents of boys, however, disagreed more strongly with the Suppression and Distance and the Overpossessiveness scales than parents of girls, as was reported in the description of mean PARI

TABLE 31

AVERAGE CORRELATIONS FOR PARENTS' SCORES ON PARI COMPOSITE SCALES WITH CHILDREN'S SCORES ON THE SOCIOMETRIC TEST AND WITH OBSERVATION MEASURES OF FRIENDLY INTERACTIONS WITH PRESCHOOL PEERS

PARI composite scale	Sociometric scores		All friendly interactions*	
	Girls	Boys	Girls	Boys
Scores of fathers:				
Suppression and distance	-.35 ^{ab}	.28 ^b	-.36*	-.01
Unhappiness at home	-.22	.12	.14	.23
Demand for striving	-.46 ^{**b}	.36 ^{ab}	-.10	.17
Overpossessiveness	.15	-.16	-.10	-.21
Harsh punitive control	-.56 ^{**b}	.41 ^{**b}	-.06	.21
Scores of mothers:				
Suppression and distance	-.25 ^b	.35 ^{ab}	-.01	.06
Unhappiness at home	-.08	.01	-.07	-.08
Demand for striving	-.32	.10	-.03	-.08
Overpossessiveness	.09	.12	.04	-.11
Harsh punitive control	-.24	.12	.05	.05

* The sum of friendly interactions with peers: association + friendly approach + conversation.

^b Sex difference in average *r*'s is significant at .05 level.

* Significant at .05 level.

** Significant at .01 level.

scales. These parents had the usual attitudes that boys should have more freedom of expression than girls. The sex differences in relations for social acceptance raise questions as to the merit of that opinion and practice for the preschool ages, and indicate that preschool girls should be allowed and encouraged in more freedom of expression than preschool boys.

The correlations between PARI scores and sociometric scores in Table 31 are larger than, but resemble those between PARI scores and dramatic play use of language in Table 27, and do not resemble the non-significant correlations between PARI scores and friendly interaction scores in Table 31. All three measures of children's social behavior have been described in this report as fairly closely interrelated. For PARI scores, relations with children's sociometric scores were more important than those with dramatic play use of language and friendly interaction scores. For home experiences with dramatic play topics, relations with dramatic play use of language and hostility were more important than those with friendly interaction scores and sociometric scores. The measures of child social behavior clearly have different meanings, despite their resemblance.

The relations between PARI scores and the three measures of children's social behavior help to explain some of the unaccounted for discrepancy between preschool children's sociometric scores and observation measures of social participation, such as the friendly interaction scores of this investigation, described in a review of social acceptance research by Marshall (1960). The relations in the present investigation mean that parents' attitudes about rearing children relate more closely to the number of times their child will be chosen as a friend by other children during the sociometric test, than to observation measures of children's social behavior. These attitudes of parents, then, are factors affecting sociometric scores, and presumably social acceptance, that are not included or adequately reflected in observation measures.

The sex of child differences in relations between sociometric scores and PARI scores

contradict the idea that the "good" parent has "usually approved" attitudes, implicit in the description of the PARI scales as "pathogenic" by Schaefer and Bell (1958, p. 346).

Test Aggression

Relations between children's test aggression scores and parents' scores on PARI composite scales, shown in Table 32, resemble corresponding relations for use of reality language and hostility in Tables 25 and 27, with one sex of child and sex of parent exception. Positive relations were found in most correlations for the two punitive control scales and for the Unhappiness at Home scale. These relations also support hypotheses that punishment leads to aggression; the aggression in these instances was toward the experimenter in a doll play test situation. Other relations reported for the preschool hostility and the doll play aggression have suggested that these two behaviors had no common meaning.

The exception to these trends occurred for relations between girls' aggression scores and fathers' scores on the two punitive con-

TABLE 32
AVERAGE CORRELATIONS BETWEEN PARENTS'
SCORES ON PARI COMPOSITE SCALES
AND CHILDREN'S SCORES ON THE
TEST OF AGGRESSION

PARI composite scale	Test aggression scores and—			
	Fathers' PARI scores		Mothers' PARI scores	
	Girls	Boys	Girls	Boys
Suppression and distance	.26	-.03	.07	.20
Unhappiness at home	.03	.30	.41*	.19
Demand for striving	-.38**	.36**	.23	.36*
Overpossessiveness	.20	.17	.07	.22
Harsh punitive control	.02	.32*	.12	.06

* Sex difference in average r 's is significant at .05 level.

** Significant at .05 level.

TABLE 33
AVERAGE CORRELATIONS BETWEEN PARENTS'
SCORES ON PARI COMPOSITE SCALES AND
YEARS OF PARENTS' EDUCATION

PARI composite scale	Years of parents' education and—			
	Fathers' PARI scores		Mothers' PARI scores	
	Girls	Boys	Girls	Boys
Suppression and distance	-.40*	-.25	-.35	-.36*
Unhappiness at home	-.32	-.12	-.17	-.01
Demand for striving	-.51**	-.26	-.31	-.11
Overpossessiveness	-.46**	-.32*	-.15	.29
Harsh punitive control	-.51**	-.29	-.37*	-.30

* Significant at .05 level.

** Significant at .01 level.

tol scales, as is shown in Table 32. Relations for girls' and fathers' scores are more like corresponding relations for sociometric scores and dramatic play language than those for reality language and hostility.

Parents' Education

Parents' agreement with the PARI composite scales decreased as their years of education past high school increased. Five of these negative relations for fathers, shown in Table 33, are large enough for significance, and two are significant for mothers. This finding may be associated with two other relations described earlier in this report: a positive r of .25 between fathers' education and the sociometric scores of all children, and the sex differences in relations between PARI scores and sociometric scores.

These relations also may be another instance of the sensitivity of PARI scores in relations with other measures. Small variations in PARI scores have been reported in this section to accompany small and large variations in other measures. Few relations have been demonstrated for parents' educa-

tion in this investigation, apparently because of the limited variation resulting from the control of sociometric status.

In relations between education of spouse and PARI scores, significant relations for both parents were limited to a negative relation with scores on the Harsh Punitive Control scale.

Other Home Experiences

Parents' scores on PARI composite scores did not relate to the time children spent at home listening to stories and records or watching television.

Relations for home experiences with dramatic play topics and time spent talking with family members and maids have been reported with relations for use of dramatic play language and for the Overpossessiveness scale, respectively, earlier in this section.

Summary

The findings of this section give strong support to the supposition that parents' attitudes affect their child's behavior. PARI scores of parents entered into the conjectured relations with children's hostility and related to almost all measures of this investigation.

The frequency of children's use of hostility to establish or defend their "rights" with age peers increased as parents' agreement with statements favoring punitive control of children increased (or their disagreement decreased, the more accurate description for these parents). The exceptions to this finding were 4½-5½ year boys; variations in the high frequency of their use of reality hostility did not relate to punitive control scores of parents. Positive relations of a smaller size were found between punitive control scores and the number of hostile interactions with other children, and, for boys, the use of dramatic play hostility. Hypotheses that punishment leads to aggression were supported by these relations and by similar relations for children's aggression during a doll play test. These hypotheses were given more support by relations for fathers' scores than for mothers' scores.

Different relations with children's hostility occurred for parents' scores on the Overpossessiveness scale of the PARI. There was a decrease in children's use of hostility to carry out the roles of dramatic play as fathers, but not mothers, agreed more with the ideas of this scale.

Girls were more popular among preschool peers when their parents strongly disagreed with the suppression and punitive control scales, but boys were more popular when their parents disagreed less, or agreed more, with the ideas of these PARI scales. These relations were large and significant for both sexes, despite the difference in direction, and the most important of those found for desired characteristics of children.

Fathers' agreement with the ideas of all PARI composite scales seemed to inhibit or depress girls' expression of ideas in dramatic play at preschool, but to have not affected or to have encouraged boys' use of dramatic play language. Home experiences with dramatic play topics also decreased for girls when parents agreed more with the PARI scales, and parents' agreement accompanied no change or an increase in these experiences for boys.

Children's use of reality language with peers tended to increase as either parent agreed more with the punitive control scales. This trend was most marked for the measures that included use with both children and teachers: greeting (by girls), and question (by all children). Children's tested vocabulary knowledge lacked the emotional meaning of relations with PARI scores.

Parents' agreement with the PARI composite scales decreased as their years past high school increased.

The only measures that failed to relate to PARI scores of parents were measures of time spent at home at two types of activities: talking with family members and maids, and listening to stories and records and watching television.

Minor differences in parents' scores, particularly fathers' scores, were associated with large differences in children's behavior. These parents diverged little from the mean scores indicating disagreement with most of the pathogenic PARI scales. Agreement

between fathers and mothers in the same family was not particularly high.

Relation of Children's Dependence on Teachers to Their Behavior with Age Peers and to Their Home Experiences

Children have social contacts with teachers as well as with children during child directed play at preschool. The frequency of these child-teacher interactions can be used as a measure of the child's dependence on adults, as has been described by Marshall and McCandless (1957a). This section describes the use of language and hostility during interactions between children and teachers recorded for the children of this investigation, and the relations between this dependence on teachers and both their behavior with peers and their home experiences. These relations were expected to replicate and to help explain the negative relations between dependence on teachers and interactions with and social acceptance by peers, reported by Marshall and McCandless for 36 Iowa children.

Children's Dependence on Teachers

Children's dependence on friendly contacts with teachers during preschool play declined as age increased from 2½ to 6½ years, as is shown in all figures for dependence measures in this section (Figures 10, 11, and 12). This decline was greatest between 2½ and 4½ years, but continued through 6½ years. The effect of age was significant in all analysis of variance tests, and there were no sex differences for measures of friendly dependence on teachers.

The youngest children, aged 2½-3½ years, had a friendly interaction with a teacher once every 4 minutes (or two observation records), as is shown in Figure 10. This is one-third as frequent as the between children friendly interactions for this age group, shown earlier in Figures 5 and 6. The oldest children, those aged 5½-6½ years, had a friendly interaction with a teacher about once in 20 minutes, but had four friendly interactions with children during each 2-minute observation record.

These age differences denote a developmental decrease for children's dependence on teachers during the preschool years. They indicate that the age of the child needs consideration before the child is labeled "dependent," or a child with excessive teacher contacts. Age differences shown in Figure 10 are very large, and lead to the inference that comparisons of the number of child-teacher interactions should be within a single year, rather than within a preschool group with an age range from $2\frac{1}{2}$ to $4\frac{1}{2}$ years, or from $3\frac{1}{2}$ to $5\frac{1}{2}$ years. The latter age range of subjects has been used in most studies of dependence on preschool teachers, without allowing for age differences. The expected greater dependence of younger children may have been equated with excessive dependence in these studies.

The developmental decrease in dependence on teachers has implications about children's learning. During the same cir-

cumstances, child directed play, the youngest children had five times as many interactions with teachers as the oldest children in this investigation. Obviously, the younger children "needed" more attention from teachers to enjoy and learn from direction of their own play. The older children apparently satisfied their "needs" through their doubled number of friendly interactions with children. In other words, the older children were "learning" primarily from age peers, while the younger children were directly influenced by their teachers. These results justify the belief of preschool educators that children aged $2\frac{1}{2}$ - $4\frac{1}{2}$ years need a smaller pupil-teacher ratio than children aged $4\frac{1}{2}$ - $6\frac{1}{2}$ years. Additionally, they suggest that teachers need different abilities and teaching methods for the two age groups.

The number of friendly interactions with teachers for the 70 children in the two age groups from $3\frac{1}{2}$ to $5\frac{1}{2}$ years, shown in Figure 10, were compared with those for children in the same age range observed in two other studies. The Kentucky children had about the same number of dependence interactions as the 60 Hawaiian children observed by McCandless, Bilous, and Bennett (1961), but the 36 Iowa children studied by McCandless and Marshall (1957b) had about twice as many dependence interactions as either of these groups.

Children usually spoke as themselves in their interactions with teachers, and seldom used the dramatic play classification in such interactions. About half of the children failed to use the dramatic play classification of language with teachers. For example, dramatic play suggestion, the most frequently used category in that classification, was used with teachers by 24 girls and 25 boys. It was used in 3% of the observation records for girls, and in 4% of the observation records for boys. This limited frequency of use for the dramatic play classification meant that it could not be used as a measure of dependence on teachers, and it is not described further in this section.

All language measures of dependence on teachers, then, are those classified as reality use of language. The children were talking

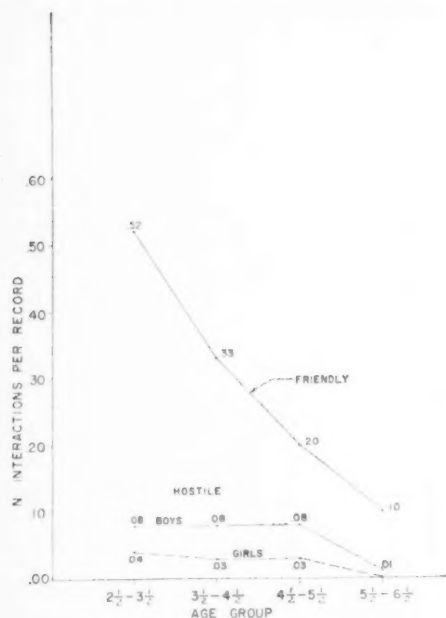


FIG. 10. Mean number of all friendly interactions (association + friendly approach + conversation) and mean number of hostile interactions between children and teachers per 2-minute observation record for each age group.

as themselves and in their own behalf, rather than in carrying out a role in dramatic play.

The decrease in the frequency of children's suggestions to and agreement with teachers as age increased is shown in Figure 11. The rate of age decline approximated halving each year the number of suggestions or agreements made by the preceding age year group.

The frequencies for suggestion and agreement from teachers to children are shown in Figure 12. These appear to closely resemble children's use of the categories shown in Figure 11.

Close relations were found between these child and teacher measures in correlations, as is shown in Table 34. The results support the grouping of friendly interactions with teachers and of use of language to and from teachers under the classification of friendly dependence on teachers.

Hostile interactions between children and teachers occurred much less frequently than

friendly interactions in all age groups, as is shown in Figure 10. The frequency of hostility directed by children to teachers is shown in Figure 13, and that for hostility directed by teachers to children in Figure 14. These data suggest that dependence hostility seldom occurred during child directed play. Hostility from children and from teachers were closely related; the average r 's between these measures were .69 for girls, and .87 for boys.

Age and sex differences in frequency of dependence hostile interactions were significant at the .005 level in analysis of variance tests. Boys had twice as many hostile interactions with teachers as girls. Children in the $5\frac{1}{2}$ - $6\frac{1}{2}$ year group had fewer hostile interactions with teachers than younger children.

Whether the child or the teacher initiated hostile interactions was not recorded. The observer's impression was that teachers' hostility tended to be in the form of "nicely" suggesting that the child do something other

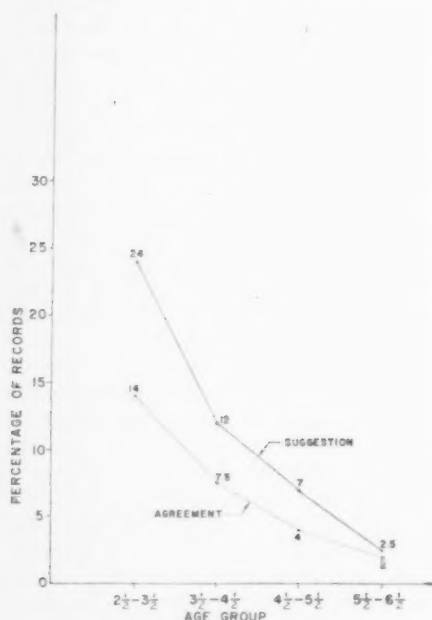


FIG. 11. Mean percentage of observation records in which children made suggestions to and agreed with teachers for each age group.

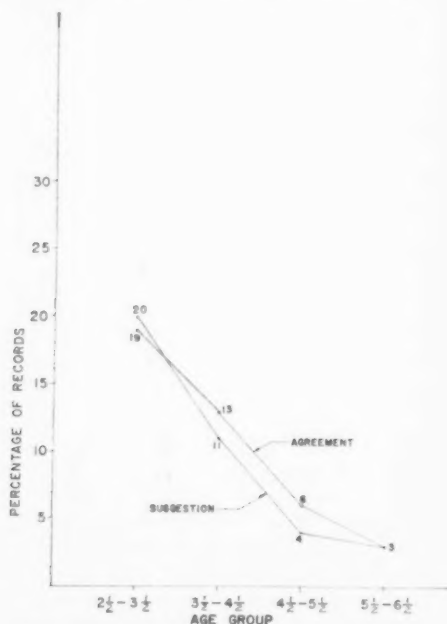


FIG. 12. Mean percentage of observation records in which teachers made suggestions to and agreed with children for each age group.

TABLE 34

INTERRELATIONS BETWEEN FRIENDLY DEPENDENCE MEASURES AS SHOWN IN AVERAGE CORRELATIONS FOR GIRLS AND BOYS

Dependence measures	Suggestion from child to teacher	Agreement of child with teacher	Suggestion from teacher to child	Agreement of teacher with child
Agreement of child with teacher	.74*			
Suggestion from teacher to child	.56*			
	.66*	.74*		
	.75*	.81*		
Agreement of teacher with child	.90*	.75*	.65*	
	.93*	.54*	.64*	
Interactions with teacher	.88*	.67*	.70*	.89*
	.83*	.72*	.57*	.83*

Note.—Boys' average r 's in italics.

* Significant at .01 level.

than his current activity. Records for one preschool group suggest that hostility may have been initiated by the teacher. In this preschool group, the head teacher consistently interrupted conflicts between children to urge the children to talk, rather than to

hit or push, and this practice was not followed by other teachers in this investigation. The 17 children in that preschool group had a hostile interaction with the teacher in a mean of 10% of the records, and for the six $4\frac{1}{2}$ - $5\frac{1}{2}$ year boys, the mean was 14%.

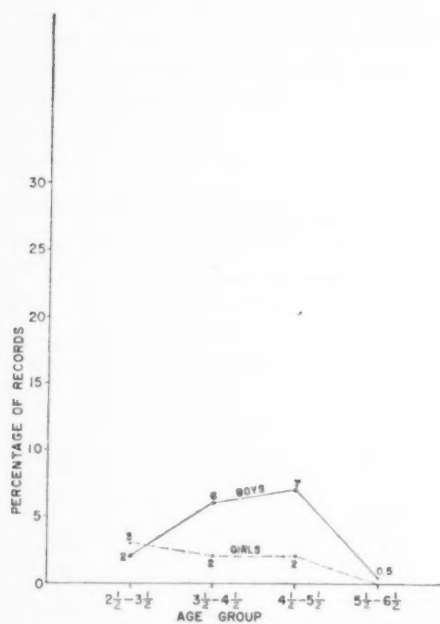


FIG. 13. Mean percentage of observation records in which children showed hostility to teachers for each age group.

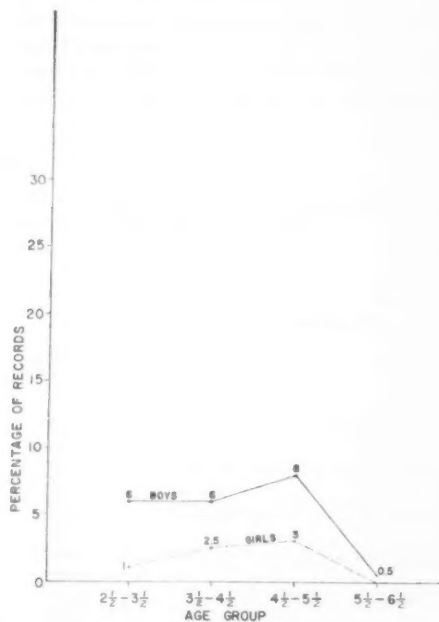


FIG. 14. Mean percentage of observation records in which teachers showed hostility to children for each age group.

The limited use of hostility between children and teachers indicated that the obtained data did not discriminate between children enough for use as measures of dependence on teachers. Hence, the relations for these measures are not described.

Relations between Dependence on Teachers and Behavior with Peers

Interactions with Peers. This investigation replicated the negative relations between dependence on teachers and children's friendly peer interaction scores reported by Marshall and McCandless (1957a). Negative relations predominate in the average r 's between these measures for children under 5½ years of age that are shown in Table 35. Relations for the measure used by Marshall and McCandless are shown in the last line of Table 35. On the basis of results from two studies, then, it can be said that children in each age group under 5½ years will have more interactions with teachers when they have fewer interactions with peers, and vice versa.

At 5½-6½ years, relations between these measures were positive for boys and negative for girls. Four r 's for 5½-6½ year boys differed at the .05 level from the average

r 's for boys of other ages. These differences may indicate the beginning of the disappearance of dependence on adults during elementary school years that was reported by Wittenborn (1956).

The apparent sex differences in the relations shown in Table 35 were not significant. The somewhat larger negative relations for girls are in line, however, with the significant sex differences in these relations reported by McCandless and Marshall (1957b) for 36 Iowa children. The Kentucky children had a larger number of interactions with other children and about half the interactions with teachers of the Iowa children, as was reported earlier. These differences in the extent of both behaviors may have affected the sex differences in relations between the behaviors.

Sociometric Scores. This investigation did not replicate the negative relations between dependence on teachers and social acceptance in the preschool group reported by Marshall and McCandless (1957a). Average r 's for boys and girls between dependence measures and sociometric scores ranged from -.18 to .13. This difference in results for the two studies may be associated with the greater dependence of the

TABLE 35
AVERAGE CORRELATIONS BETWEEN MEASURES OF DEPENDENCE ON TEACHERS AND
PEER INTERACTION SCORES OF GIRLS AND BOYS UNDER 5½ YEARS OF AGE

Dependence measures	Peer interaction scores			
	Association	Friendly approach	Conversation	All friendly (A + FA + C)
Suggestion from child to teacher	-.36*	-.13	-.08	-.30
	-.33	-.04	-.30	-.24
Agreement of child with teacher	-.49**	-.33	-.32	-.50**
	-.28	-.23	-.36	-.22
Suggestion from teacher to child	-.33	-.33	-.27	-.42*
	-.17	-.08	-.34	-.18
Agreement of teacher with child	-.52**	-.34	-.34	-.50**
	-.16	.04	.22	.22
Interactions with teacher	-.44*	-.30	-.34	-.30
	-.25	.04	-.43*	-.21

Note.—Boys' average r 's in italics.

* Significant at .05 level.

** Significant at .01 level.

Iowa children, mentioned in the preceding paragraph. However, McCandless et al. (1961) found evidence of this negative relation in their study of Hawaiian children. Their findings suggest this relation is closer when the dependence is emotional rather than instrumental, a distinction not made for dependence measures in this investigation.

Use of Language and Hostility with Peers. Relations between dependence on teachers and use of language and hostility with peers were found for boys, but not for girls, as is shown in Table 36. As dependence on teachers increased, boys used reality language more frequently with peers, and less frequently used dramatic play hostility with peers. In other words, boys used a behavior not essential to getting along with peers more frequently, and a behavior essential to getting along with peers less frequently when they were more dependent on teachers at preschool.

The sex differences in relations between dependence and use of reality language were not found in relations between dependence and peer interaction scores, shown in Table 35, or in corresponding relations for sociometric scores. They suggest that either the

manifestations or the antecedents of dependence on teachers may not be exactly the same for boys and girls.

Relations between use of reality hostility with peers and dependence on teachers are not included in Table 36 because of significant differences in relations for $4\frac{1}{2}$ - $5\frac{1}{2}$ year boys and girls from those for other children that were found for four of the five dependence measures. In the other age groups, use of reality hostility did not relate to dependence on teachers, as is shown in the range of average r 's from $-.23$ to $.10$. Children in the $4\frac{1}{2}$ - $5\frac{1}{2}$ year group used hostility in their own behalf more frequently when they showed more dependence on teachers. Average r 's for this age group ranged from $.23$ to $.43$, and three were $.40$ or above and significant. These age differences are another instance of atypical child behavior for the $4\frac{1}{2}$ - $5\frac{1}{2}$ year boys and girls.

The two categories of the reality classification that combined use of language with children and adults, question and greeting, would be expected to have positive relations with measures of children's use of language with adults. Relations for the frequency of questions had the expected positive relations with dependence measures. Average r 's for

TABLE 36

AVERAGE CORRELATIONS BETWEEN MEASURES OF DEPENDENCE ON TEACHERS AND THE FREQUENCY OF USE OF LANGUAGE AND HOSTILITY WITH PEERS BY GIRLS AND BOYS

Dependence measures	Dramatic play		Reality	
	Suggestion	Hostility	Suggestion	Agreement
Suggestion from child to teacher	.05 <i>-.03</i>	-.10 -.22	.29 .37*	.06 .32*
Agreement of child with teacher	-.19 .00	-.18 -.33*	.00 .35*	.15 .30
Suggestion from teacher to child	-.15 -.03	-.15 -.50**	-.04 .27	-.10 ^a .41***
Agreement of teacher with child	-.23 -.03	-.25 -.17	.12 .42**	.06 ^a .54***
Interactions with teacher	-.08 .02	-.19 -.23	.13 .34*	-.10 ^a .46***

Note.—Boys' average r 's in italics.

^a Sex difference in average r 's is significant at .05 level.

* Significant at .05 level.

** Significant at .01 level.

boys and girls were similar, ranged from .29 to .56, and were significant in 7 of the 10 possible relations.

The expectation of positive relations was not verified by relations in all age and sex groups for the category of greeting, as is shown in Table 37. As children's age increased, the relations between the frequency of greeting and dependence on teachers changed from a positive to a negative direction.

There were no age differences in the mean frequency of use of reality greeting by these children. Consequently, the relations with dependence measures suggest that frequent greeting of others was inhibited by more dependent children as age increased. Reality greeting failed to relate to any other measures of children's social behavior. This inhibition for dependent children may be due, then, to failure of this approach to obtain rewards from peers. Dependent children obviously are rewarded by teachers.

Vocabulary Age. A consistent positive direction of relations and two significant r 's suggest that as children's vocabulary age increased, they talked more frequently with teachers, and so were more dependent on teachers by the definition of this investigation. The two significant r 's occurred for relations that differed with the age or sex of the child. For most children, a higher vocabulary age accompanied more teacher

agreement with the child's suggestions (average $r = .46$). The exceptions were the $4\frac{1}{2}$ - $5\frac{1}{2}$ year children, for whom the average r was $-.11$. Girls agreed more frequently with teachers' suggestions when their vocabulary age was higher (average $r = .41$), but boys agreed less frequently with teachers as their knowledge of vocabulary increased (average $r = -.25$).

Hypotheses to be Tested about the Home Antecedents of Dependence on Teachers

Most hypotheses about the antecedents of excessive dependence during the preschool years emphasize a motivation within the child for undue attention from adults. This motivation is thought to result in a lack of motivation toward interactions with peers, and, consequently, a lack of skill in such relations. The antecedents most frequently studied as causes of this motivation have been suppression and deprivation (Gewirtz, 1954; Hartup, 1958), and overpossessive or extremely gratifying parents (Crandall, Preston, & Rabson, 1960; McCandless et al., 1961). Suppression and deprivation are hypothesized to create a "hunger" for more pleasant adult contacts, while gratification is believed to create an approach drive through its rewards for dependent behavior.

A different hypothesis about the antecedents of excessive dependence in preschool children is rarely mentioned (Mar-

TABLE 37
AVERAGE CORRELATIONS BETWEEN MEASURES OF DEPENDENCE AND CHILDREN'S USE OF
SELF GREETING FOR AGE GROUPS AND FOR SEX GROUPS

Measures of dependence	Age groups		p of age difference	Sex groups	
	Under $4\frac{1}{2}$	Over $4\frac{1}{2}$		Girls	Boys
Suggestion from child to teacher	.53**	-.33*	.01	-.49**	.00
Agreement of child with teacher	.11	-.21	ns	-.04	-.09
Suggestion from teacher to child	.33*	-.20	.05	-.19	.05
Agreement of teacher with child	.35*	-.25	.05	-.20	.11
Interactions with teacher	.17	-.26	.05	-.29	.12

* These average r 's and the p are for boys' groups only, not all children as in other r 's listed. Age differences in this relation were not found for girls.

* Significant at .05 level.

** Significant at .01 level.

shall & McCandless, 1957a), and has not been studied in research. This hypothesis has failure with peers as the antecedent of excessive dependence on teachers. According to this explanation, children show excessive dependence because they lack the techniques and interests required for participation in play with peers, and often fail in their attempts to play. The finding of Marshall and McCandless that consistent relations were not obtained during the first 3-4 weeks of preschool experience between dependence scores and measures of peer participation and acceptance is in line with this hypothesis; relations for excessive dependence on teachers existed only after several weeks of success and failure in play with preschool peers.

Speculation suggests that causes of the inadequate techniques and failure with peers might be similar to those frequently cited for failure in reading: too few experiences at home that prepare for the task of learning to read in elementary school. For preschool children, the causes of dependence might be too few experiences at home that prepare for the task of learning to play with peers. The existence of such home experiences has been demonstrated in this investigation. More home experiences with the topics of dramatic play accompanied more talk and participation in play with peers. Social acceptance of girls increased as parents indicated stronger belief that their daughters should express ideas freely, although for boys the reverse was true.

The child and parent measures of this investigation permit an attempt to test the second hypothesis, as well as the first hypothesis and findings of other investigators. Correlations between measures of dependence and percentages of dramatic play topics checked by parents for home sources of information should provide evidence on the speculation about home experiences included in the second hypothesis. Two of the PARI scales are named for, and thought to include, the parental attitudes studied as antecedents of dependence in the first hypothesis. Correlations between measures of dependence and parents' scores on the Suppression and Distance and the Over-

possessiveness scales should constitute a test of this hypothesis. The relations between dependence measures and the other home experiences studied in this investigation may indicate support for either hypothesis.

Relations between Dependence on Teachers and Home Experiences

Home Experiences with Dramatic Play Topics. Dependence on teachers increased as children had fewer opportunities to learn about the dramatic play topics of the preschool group from home sources of information. Negative relations between these measures occurred more frequently for younger than for older children, however, as is shown in Table 38.

The correlations between dependence measures and home experiences with dramatic play topics afford the best test in this investigation of the second hypothesis about causes of dependence in preschool children: When children have too few experiences at home that provide the techniques and interest required for participation in play with age peers, they will often fail in their attempts to play with peers, and, as a consequence, will show excessive dependence on teachers at preschool. The negative direction and size of the correlations for younger children, shown in Table 38, furnish strong support for this hypothesis. As these children had fewer home experiences with the dramatic play topics of the preschool group, they showed more dependence on their teachers, and vice versa. The relations between home experiences with dramatic play topics and measures of play with peers for these children also agreed with the hypothesis, as has been reported.

The age differences in relations indicate that this factor may affect the hypothesis. This hypothesis may explain more instances of excessive dependence during the years from $2\frac{1}{2}$ to $4\frac{1}{2}$, when dependence on teachers is at a high level for all children, than during the later preschool years when most children are relatively independent of teachers.

The correlations with dependence measures in Table 38 indicate that three home

TABLE 38

AVERAGE CORRELATIONS BETWEEN THREE MEASURES OF DEPENDENCE ON TEACHERS AND THE PERCENTAGES OF DRAMATIC PLAY TOPICS CHECKED FOR HOME SOURCES OF INFORMATION BY PARENTS OF YOUNGER ($2\frac{1}{2}$ - $4\frac{1}{2}$ YEARS) AND OLDER ($4\frac{1}{2}$ - $6\frac{1}{2}$ YEARS) CHILDREN

Home source of information	Suggestion from child to teacher		Agreement of teacher with child		Interactions with teacher	
	Younger	Older	Younger	Older	Younger	Older
Talk with father	-.41**	.13*	-.53** ^a	.20 ^{ab}	-.34	.13
Talk with mother	-.31*	.20*	-.29	.11	-.27	.17
Talk with children: Girls	-.64**	.60*	-.58**	.36*	-.61**	.34*
All boys	-.20		-.33		-.29	
Personal experience	-.47**	.04*	-.43*	-.17	-.40*	-.01
Books and stories	-.19	.04	-.21	.05	-.16	.10
Television	-.19	-.28	-.20	-.28	-.06	-.32

^a Age difference in average r 's is significant at .05 level.

^b These average r 's are for boys only. The average r for all girls was $-.35$.

* Significant at .05 level.

experiences related more closely to the dependence on teachers of younger children than experiences with most other home sources of information. These experiences were obtaining the information about dramatic play topics through the sources of talk with father, talk with mother, and personal experience. These experiences of learning from adults important to the child were the home experiences that related most closely to children's use of dramatic play language and hostility with peers, as was reported earlier. Age differences in relations for both boys and girls were significant for these experiences.

The other home experience that correlated significantly with the dependence shown by younger children was talk with children. The percentage of dramatic play topics checked for this home information source entered into larger correlations with dependence on teachers, shown in Table 38, than with use of dramatic play language and hostility with peers, shown in Table 17. The greater importance of this information source in relations with dependence is suggested, also, by the negative relations for boys of all ages, as well as for younger girls. Opportunities to learn about dramatic play topics from brothers and sisters, or from children in the neighborhood, include oppor-

tunities to learn techniques of play with peers. These experiences might provide both techniques of play with peers and interest in such play. Acquisition of both techniques and interest was hypothesized to increase the chances of success with peers at preschool, and, consequently, to reduce dependence on teachers.

The relations between dependence measures and home experiences with dramatic play topics suggest a teaching procedure for dependent children. Teachers could use the dependence conditions (excessive talk with teacher) to provide information about the dramatic play topics of the preschool group. According to the hypothesis and these findings, this procedure would increase the child's interest and probable success in play with peers, and hence lead to less dependence on the teacher.

Correlations for the two dependence measures not shown in Table 38 were similar in direction to those listed, but were seldom significant.

PARI Scores of Parents. Scores of parents on the PARI composite scales entered into fewer relations with measures of children's dependence on teachers than with other measures of children's preschool behavior. The only evident consistencies or significant relations are for those correla-

TABLE 39

AVERAGE CORRELATIONS BETWEEN MEASURES OF DEPENDENCE AND FATHERS' SCORES ON COMPOSITE PARI SCALES FOR GIRLS AND BOYS

Dependence measures	Fathers' PARI scores				
	Suppression and distance	Unhappiness at home	Demand for striving	Overpossessiveness	Punitive control
Suggestion from child to teacher	.30	-.05	.10	.02	.10
	-.17	-.18	-.19	-.05	-.26
Agreement by child with teacher	.40*	-.09	.37*	.17	.29
	.07	-.06	.09	.22	.17
Suggestion from teacher to child	.27	-.19	.12	.30	.04
	.03	-.10	-.03	.14	.00
Agreement of teacher with child	.26	-.09	.18	.14	.12
	-.09	-.22	-.21	.00	-.24
Interactions with teacher	.22	-.21	.06	.05	.05
	.06	-.09	-.18	.08	-.13

Note.—Boys' average *r*'s in italics.

* Significant at .05 level.

tions proposed as tests of the first hypothesis that dependence precedes decreased participation with peers at preschool.

For girls, but not boys, consistent positive relations are found between dependence measures and fathers' scores on the Suppression and Distance and the Demand for Striving scales. The *r*'s are shown in Table 39. Two of these are significant. These relations suggest that girls are more dependent on teachers when fathers express attitudes of suppression and deprivation. This was studied as a cause of dependence by Gewirtz (1954) and Hartup (1958). Similar relations were not indicated for these PARI scores of mothers. These relations are in line with the hypothesis, then, but cannot be described as strong support for it.

For boys, the only apparent relations were those shown in Table 40 between dependence measures and mothers' scores on the Overpossessiveness scale. Younger boys showed more dependence on teachers when mothers expressed overpossessive attitudes, but these attitudes did not relate to the dependence of boys older than 4½ years. Relations for younger boys are in line with the hypothesis that dependence is a consequence of overpossessive or extremely gratifying parents, presented in detail by Cran-

TABLE 40

AVERAGE CORRELATIONS BETWEEN MEASURES OF DEPENDENCE FOR YOUNGER AND OLDER BOYS AND MOTHERS' SCORES ON THE OVERPOSSESSIVENESS COMPOSITE SCALE OF THE PARI

Dependence measures	Boys' age groups	
	2½-4½ years	4½-6½ years
Suggestion from child to teacher	.65**	.02*
Agreement by child with teacher	.59**	-.10*
Suggestion from teacher to child	.60*	.24*
Agreement of teacher with child	.72***	-.08
Interactions with teacher	.61*	.09

* Age difference in average *r*'s is significant at .05 level.

* Significant at .05 level.

** Significant at .01 level.

dall et al. (1960) and McCandless et al. (1961). Similar relations were not indicated for these PARI scores of fathers or for dependence of girls.

The interpretation of the relations shown in Table 40 differs from that of the preceding paragraph, however, if they are considered in conjunction with the finding about age differences in relations between mothers' scores on the Overpossessiveness scale and

home experiences with dramatic play topics, described in the preceding section. Younger children had fewer opportunities to learn about dramatic play topics from talk with both parents when mothers' agreed more with the ideas of the Overpossessiveness scale, while older children had more learning experience under these circumstances. Considering these relations, the data in Table 40 are in line with the hypothesis that lack of home preparation for play with peers results in frequent failure in this play and a consequent dependence on teachers at preschool.

The paucity of other relations with PARI scores of parents may mean that the dependence shown by the children of this investigation was not as "emotional" as that studied by other investigators or found in other samples of children. This possibility was mentioned earlier as a reason for the failure to find relations between dependence and sociometric scores in this investigation.

Time Spent Talking with Individuals at Home. Positive relations are shown in Table 41 between dependence measures and the time older children talked with their fathers at home. These relations give support to the first hypothesis about dependence, that dependent children are motivated toward more interactions with teachers because, in these particular relations, of

gratification received during more time spent with father.

The consistent negative relations obtained for younger children suggest that this explanation does not apply to the excessive dependence shown by the more dependent younger children. Results for both groups substantiate the implication, induced from age differences in relations between dependence and home experiences with dramatic play topics, that causes of dependence may differ with the age of the child.

The time mothers spent in talk with children did not relate to measures of dependence. Average r 's ranged from $-.13$ to $.23$, and age and sex differences in relations were negligible.

As children spent more time at home in talk with the maid, they showed more dependence on teachers. The exceptions to this finding were boys and girls in the $4\frac{1}{2}$ - $5\frac{1}{2}$ year group, as is shown in Table 41, who have been described often in this report as differing in relations with home experiences from the children of other ages. The relations for dependence measures in most age groups are in line with other findings that more talk with the maid at home fostered children's frequent use of behavior not essential to getting along with peers at preschool.

TABLE 41

AVERAGE CORRELATIONS BETWEEN MEASURES OF DEPENDENCE ON TEACHERS AND TIME TALKED AT HOME WITH FATHERS, SIBLINGS, AND MAIDS FOR THE AGE AND SEX GROUPS IN WHICH DIFFERENCES IN CORRELATIONS WERE OBTAINED

Dependence measures	Fathers' time		Maids' time		Siblings' time	
	$2\frac{1}{2}$ - $4\frac{1}{2}$ years	$4\frac{1}{2}$ - $6\frac{1}{2}$ years	All but $4\frac{1}{2}$ years	$4\frac{1}{2}$ - $5\frac{1}{2}$ years	Girls	Boys
Suggestion from child to teacher	-.14	.19	.41*	.09 ^a	-.02	.12
Agreement by child with teacher	.03	.26	.15	-.03 ^a	-.22	.12
Suggestion from teacher to child	-.19 ^b	.43* ^b	.35* ^b	-.17 ^b	-.34 ^b	.18 ^b
Agreement of teacher with child	-.19	.18	.39*	-.08	-.01	.06
Interactions with teacher	-.12	.20	.19 ^b	-.27 ^b	-.02	.21

* Differences for $4\frac{1}{2}$ - $5\frac{1}{2}$ year boys were significant at .05 level, but not those for girls.

^b Age or sex difference in average r 's is significant at .05 level.

* Significant at .05 level.

If time spent talking with the maid indicated rejection by or deprivation of mother or father, these relations could be interpreted as indicating support of the first hypothesis. However, the time spent talking with maids correlated positively with time spent talking with mothers, and did not relate to time spent talking with fathers, as was reported earlier. Maid's time correlated negatively with the time spent talking with siblings, a relation more in line with the second than the first hypothesis. More time spent talking with maids and less time spent talking with siblings may mean fewer opportunities to learn the techniques and interests required for participation in play with peers.

This interpretation is not verified by the relations between time spent talking with siblings and dependence measures. Most of these correlations approach zero in size, and the only consistent trend in age and sex groups was the difference in the direction of relations for the two sex groups shown in Table 41.

Time for Stories, Records, and Television. When children spent more time viewing television at home, they showed less dependence on the teacher at preschool. Negative correlations were obtained for most age and sex groups. The size of the average r 's for all children was large enough to be significant in two relations for minutes watching television: with number of friendly interactions with teachers ($-.27$), and with the frequency of suggestions from teacher to child ($-.33$). Additionally, for boys, the average r of $-.32$ was significant between minutes watching television and agreement by the child with the teacher.

Television is a major source of children's information and interest in cowboys and other western lore, a frequent topic of preschool play. For that reason, these relations probably offer the same kind of support to the second hypothesis about dependence as those found for home opportunities to learn about the dramatic play topics of the preschool group.

No relations existed between dependence measures and either time for stories or time

for records at home. Fifteen of the 20 sex group correlations were in the range from $.00$ to $\pm .10$, and there were no indications of age differences in these relations.

Education of Parents. Measures of dependence on teachers did not correlate significantly with years of education of either parent for all children. However, age differences in relations between education of mothers and dependence measures were suggested by all correlations between these measures, and were significant at the $.05$ level in two instances. Children younger than $4\frac{1}{2}$ years showed less dependence on teachers when their mothers had more years of education (average r 's from $-.21$ to $-.34$). Children older than $4\frac{1}{2}$ years showed more dependence on teachers when their mothers had more years of education (average r 's from $.13$ to $.29$).

Summary

Relations for dependence measures provided strong support for a hypothesis about preschool dependence not previously tested in research. The hypothesis is as follows: when children have too few experiences at home that provide the techniques and interests required for participation in play with peers, they will often fail in their attempts to play, and, as a consequence, will show excessive dependence on teachers.

As the children in this investigation had fewer home experiences with the dramatic play topics of their preschool group, they had fewer friendly interactions with peers, and they showed more dependence on teachers at preschool. Additionally, the more dependent boys used dramatic play hostility less frequently with peers, and more frequently used reality language, a behavior reported earlier as not essential to getting along with peers. Age differences in some of these relations suggested that this hypothesis may explain more instances of excessive dependence during the years from $2\frac{1}{2}$ to $4\frac{1}{2}$, when dependence is at a high level for all children, than during the later preschool years when most children are relatively independent of teachers. The home sources of information most clearly

related to dependence were talk with father, talk with mother, talk with children, and personal experience.

Other relations suggestive of support for this hypothesis were (a) time viewing television at home correlated negatively with dependence, (b) time spent talking with maid at home correlated positively with dependence, and (c) negative relations occurred between mothers' scores on the Overpossessiveness PARI scale and both the home experiences with dramatic play topics of younger children and the dependence on teachers of younger boys.

However, relations for dependence measures also provided some support for hypotheses that suppression and deprivation, and overpossessive and gratifying parents motivate the child to seek dependence on teachers, and, as a consequence, the child lacks motivation and skill for interactions with peers. Girls showed more dependence on teachers when their father had higher scores on PARI scales for suppression and deprivation. Because of the small size of most correlations, this support of the hypothesis cannot be described as strong. Younger boys showed more dependence when their mothers agreed more with the Overpossessiveness scale of the PARI (interpreted also as support for the other hypothesis). Older boys showed more dependence when they had the gratification of more time spent talking with fathers at home.

The developmental decline in dependence on teachers was greatest between $2\frac{1}{2}$ and $4\frac{1}{2}$ years, but continued through $6\frac{1}{2}$ years. The reality classification of language was used in most dependence interactions. Dependence hostility was rare.

Dependence related differently to the education of mothers and to the child's vocabulary age for older and younger children.

Dependence on teachers failed to relate to most children's sociometric scores, use of reality hostility, time spent talking with mothers and siblings, time spent listening to stories and records, and fathers' education. Dependence relations for $4\frac{1}{2}$ - $5\frac{1}{2}$ year boys and girls often differed from those for all other children.

DISCUSSION

To many readers, the most important of the many relations demonstrated in this investigation are those indicating that when parents and adults talk with the preschool child about more of the topics the child can use in play with other children, the child talks about and plays these topics more frequently with peers, and has a better chance of social acceptance in the preschool group. These relations suggest "positive" ways to induce socially accepted and, hence, "desired" behavior in children. Knowledge of such relation is of primary importance to the professions devoted to children's behavior problems, as well as to the professions concerned with the personality development and education of "nonproblem" children.

In establishing these relations, this investigation delineated a new dichotomy of observable behavior in children: the use of dramatic play language and hostility, and the use of reality language and hostility during play with other children at preschool. The implications of the findings that these are different and often opposing variables may be of greater importance to present knowledge of children's behavior than the relations described in the first paragraph.

Most present knowledge of preschool children's social behavior is the result of investigations that used measures combining behavior in these two classifications. When measures from the two classifications were combined in this investigation to form a supposedly more general characteristic of social behavior, such as the number of friendly interactions with peers, the relations for the so-called general measure depended on those obtained for the two classifications. Sometimes the correlations fell about midway between the opposing relations for the two classifications; in other instances correlations resembled the larger of those obtained for the classifications. More knowledge of children's behavior was obtained from relations for the two classifications, than from relations for measures combining behavior in these classifications. These findings raise questions

about the meaning of results of earlier studies that used measures combining the dramatic play and reality dichotomy. At the same time, they suggest a new reason for the often reported contradictory evidence.

Other findings about this dichotomy suggest there may be other errors in present conceptions of "general" categories of preschool children's social behavior. Characteristics of children's behavior long accepted as being opposite in meaning, such as friendly and hostile behavior and ascendant-submissive behavior, were not so in fact when given the additional classification of the dramatic play and reality dichotomy. The children who were most often friendly during dramatic play were the children most often hostile to others during dramatic play, and similar positive relations were found within the reality classification. Nevertheless, the children most often friendly during dramatic play were not the children who were most often friendly in reality talk with peers, and the children who displayed the most hostility during dramatic play were seldom the children who showed the most reality hostility to peers. In the dichotomy for ascendance (makes suggestions) and submission (agrees with others), the children who made the most suggestions during dramatic play were the children who agreed most frequently with others during dramatic play, and they were not the same children as those who most frequently made suggestions and agreed with others in reality talk with peers. Hence, findings of this investigation raise questions about the meaning of results of studies using measures that distinguish either friendly and hostile behavior, or suggestion and agreement, without having made a distinction between dramatic play and reality play.

Two questions must be answered by any research claiming to have demonstrated a new variable. One is: why has this variable not been identified in earlier studies. A partial explanation in this instance is suggested by trends in use of research techniques in child development. The dramatic play and reality classifications of this study were based on frequency counts from time sampling observation records of children's

behavior in a life situation. This method of collecting data was developed and used frequently in the 1930s. The method and findings of many studies done in these years on children's social development, such as Parten's (1932) classification of the development of social participation, and Anderson's (1939) study of domination and socially integrative behavior, are close predecessors of the child behavior aspects of this study carried out 20 years later in time. Had this method of data collection continued to be popular, perhaps these variables would have been identified 15 years ago. From 1940 to the present, however, this time-consuming method of observation has been replaced in most research on children's social development by the less time-consuming estimates of real life behavior: rating scales for use of observers and teachers, and tests or experimental situations of aggression, frustration, dependence, etc. The dramatic play and reality variables of this investigation could not be identified by use of these data collection methods.

The other question is: Are there earlier investigations that, by hindsight, report findings similar in any way to those of the present investigation? The dramatic play classification of this investigation was defined as children's use of language and hostility to carry out the roles of dramatic play in preschool groups. One of the best known investigations in child psychology, Baldwin's (1948, 1949) study about the effect of home environment on nursery school behavior, presents evidence of relations between home experiences and the dramatic play of children in preschool. An estimate of the degree to which children engaged in dramatic play was required for one of the 45 rating scales for nursery school behavior used in Baldwin's study. The means for the dramatic play scale were those selected for use in the often published diagram illustrating the association between children's behavior and democratic, indulgent, and warm patterns of parent behavior. Dramatic play scale means were higher when parental patterns were rated as democratic, but were not associated with the two parental patterns of indulgence and warmth. There

is no other evidence in this or other Fels Research Institute reports, however, that Baldwin and coworkers thought the dramatic play variable might warrant more use in future investigations than the other 44 child behavior scales they studied.

The evidence of the present investigation suggests that the most promising child behavior measures of this study for use in future research on positive parent-child relations are those in the dramatic play classification of children's use of language and hostility. Both the dramatic play and reality classifications have promise for studies of negative influence of parents on children's behavior.

The home experiences that had the largest and most consistent correlations with desired aspects of children's behavior at preschool were experiences that are usually described as intellectual, rather than as affectional or socially stimulating. These experiences exposed children at home to information about the dramatic play topics of the preschool group, described in this report as including most aspects of the child's environment. Positive correlations in the .40 to .60 range were obtained between these experiences and children's use of dramatic play language and hostility, the number of their friendly interactions with peers, and social acceptance in the preschool group. The inference is inescapable that these home experiences were affectional and socially stimulating as well as intellectual. This conclusion is in line also with findings that measures of home experiences with dramatic play topics involving either talk with parents and adults or personal experience had larger correlations with desired social behavior than measures of information about the topics gained through books, records, and television.

Evidence has been presented throughout this report that the girls in this investigation were handicapped in their coeducational preschool world by the fact that their parents and those of boys were following generally accepted practices and attitudes about rearing boys and girls differently. In the relations for the parent practices de-

scribed in the preceding paragraph, correlations were larger for girls, but they averaged significantly fewer opportunities to learn about the dramatic play topics at home than boys, and they used dramatic play language and hostility less frequently and had fewer social interactions than boys. In other words, girls were given fewer of these socially stimulating experiences, yet girls were more affected by differences in these experiences than boys.

The sex difference in experience with dramatic play topics seemed to be that boys' parents talked about and provided more experience with so-called "men's work," such as construction, destruction, and cowboys, than girls' parents. This difference is not justified by consideration of their future occupations; e.g., the boys are not likely to grow up to be cowboys, the girls may need to know more about house construction than the boys, and the destruction in the wars these children may encounter is thought to be of as great concern to women as to men. All children were given much experience with "women's work," or home and family situations. In other language, the girls were given experiences thought to foster their easy acceptance of the female role and identification with mothers, while the boys were given opportunities to learn roles of both sexes. The evidence of this investigation suggests that the emphasis on future sex role differences handicapped the preschool girls in their actions at preschool.

It is not assumed that it would be easy to remove from preschool girls the limitations of exposure to information about their environment that is not related to home life. It would mean a fairly drastic revision of attitudes about the interests of preschool girls. To illustrate this point, would you think of asking a little girl to go on a trip to see the construction of a house or highway as readily as you would think of asking her to go see a super doll house on display in a store? In visiting her at home, would you ask the little girl to show you her toy trucks and airplanes before you asked her to show you her dolls? And which would you think of first for a little boy, who cannot fail to also have

frequent exposure to home and family topics?

The same kind of implication can be drawn from some relations for parents' attitudes measured by the PARI scales, the other home experience that related closely to children's preschool behavior. PARI scores indicated that parents of boys believed their child should have greater freedom of expression than parents of girls. This finding conforms with generally accepted opinion about rearing boys and girls. Differences in this parent attitude did not interfere with the high level of boys' use of dramatic play language and hostility or with their social acceptance in the preschool group. Girls, however, expressed ideas less frequently in dramatic play and were less popular among peers when their fathers agreed more with the ideas of the suppression scale. These girls gained more than the boys from encouragement to freely express ideas, but attitudes about sex role differences apparently limited their exposure to this beneficial attitude.

The need for talk of adults to be specifically oriented to children's interests, if it is to accompany desired behavior of children in preschool groups, was given emphasis by the relations for measures of time spent talking with individuals at home. More time spent talking with persons at home did not accompany desired behavior for the child in peer groups, but accompanied undesired behavior. Additionally, time spent talking with adults did not relate to the percentage of dramatic play topics discussed with adults in five of the six possible correlations.

The narrow range of socioeconomic status for these families did not prevent the demonstration of relations between children's social behavior and either home experiences with dramatic play topics or parents' scores on the PARI. Both of these types of home experience are known to vary with socioeconomic status (McCarthy, 1954; Schaefer & Bell, 1958; Zuckerman, Barrett, & Bragiel, 1959). Socioeconomic status was controlled in this study to see if relations existed between home experiences and children's behavior that were independent of the descriptive but nonexplanatory socio-

economic status classification. The occurrence of relations for these two types of home experiences indicates that they warrant further study as possible causes of differences in children's social behavior with peers.

There is evidence in this study that children's use of language with peers does not depend on children's knowledge of words on the Stanford-Binet Vocabulary test. Home experiences selected on the basis of evidence of relations with vocabulary and other aspects of language development did not relate in most instances to the vocabulary age of these children. The latter findings are not in contradiction to earlier studies of language development because of the control of socioeconomic status. Rather, the evidence indicates that home experiences found in earlier studies to relate to language development may relate to children's social use of language regardless of relations with language development and socioeconomic status.

The idea that children may show behavior that does not increase or decrease with age is new to child development professional workers (Harris, 1957), and has not been given additional meaning through many investigations. In this investigation, the child behavior classified as reality use of language and hostility did not change as age increased. This child behavior appeared to fluctuate from day to day, and from week to week. Relations obtained for the reality classification suggest that frequent use of these categories of language and hostility may be an indication of personal or emotional difficulties, a meaning suggested also by Harris' results.

The frequency of use of reality hostility in play with peers is suggested by the findings of this investigation to be the most sensitive (enters into more relations with other variables) to personal difficulties of the measures in the reality classification. The language measures in the reality classification correlated positively with use of reality hostility, but related to fewer child and parent variables. Children's use of hostility to establish or maintain their personal rights had closer positive relations with

possible causes of personal difficulties, such as punitiveness of parents, in this investigation than the more general estimates of aggression or hostility used by other investigators (e.g., Sears et al., 1953). However, present evidence is insufficient to judge whether the frequent use of reality hostility indicates personal difficulties better than infrequent use of dramatic play language and hostility; the dramatic play measures had negative relations with possible causes in parents' behavior.

Psychological hypotheses that punishment leads to aggression were given support by relations between parents' scores on punitive control scales of the PARI and all measures of hostility and aggression used in this study. However, hypotheses that anxiety about expressing aggression will prevent its displacement to nursery school peers, but will not prevent its displacement to a doll play situation were not supported by results of this investigation. These hypotheses were developed and supported by the findings of Sears and students (Hollenberg & Sperry, 1951; Sears et al., 1953). In their investigation, ratings of mothers' punitiveness related in opposite directions for boys and girls to ratings of their aggression at preschool, and correlations were of moderate size. However, both boys and girls expressed more aggression in a doll play situation when their mothers had higher ratings for punitiveness.

In the present investigation, large positive correlations were obtained between both parents' punitive control scores and the display of reality hostility to peers at preschool by both boys and girls. Correlations between parents' scores and children's aggression scores from a doll play test of frustration were moderate in size, and the direction of relations with fathers' scores differed for boys and girls. These findings are a direct contradiction of those reported by Sears and students and of their displacement hypothesis.

The only common meaning for measures of children's hostility at preschool and their aggression during doll play in this investigation were the positive relations with the punitive control scores of parents. Test

aggression scores failed to relate to observed behavior of children at preschool and to other aspects of home experience. Consequently, the results of the present investigation disagree with almost all aspects of the assumption of the importance of aggression during doll play followed by Sears and coworkers in studies subsequent to those reported in 1950 and 1953 (see introductory statements by Levin & Sears, 1956, pp. 135-136).

The difference in relations obtained for preschool behavior in the two investigations was explained as probably due to differences in procedure in the section of this report on relations for PARI scores. The largest correlations of the present study were for the measure of use of reality hostility, and the reality-dramatic play distinction is unique to this investigation. Fathers were included as subjects in the present investigation and their punitive control scores had larger correlations with children's hostility at preschool than mothers' scores. The child sample of this investigation had a 4 year age range, and the differences in relations for $4\frac{1}{2}$ - $5\frac{1}{2}$ year boys could be recognized, and hence, not distort findings, as may have occurred in the Sears et al. study.

The differences in relations obtained for doll play behavior may be due also to procedural differences. The doll play situation in the present investigation was controlled presentation of specific equipment and dolls, rather than the uncontrolled use of a family of dolls used by Sears and coworkers. Behavior obviously may differ in such different circumstances. This possibility needs exploration in research before consideration is given to ideas that the antecedents of aggression during doll play situations may only occasionally resemble the antecedents of children's aggression in life situations.

It has been often mentioned in this report that relations for $4\frac{1}{2}$ - $5\frac{1}{2}$ year boys differed significantly from relations obtained for older and younger boys. This age difference in relations has been reported also for girls, particularly in relations for dependence measures. The age differences in relations occurred most frequently for relations between hostility or dependence measures and

home experiences, but were not limited to these child behaviors. This age group of boys had higher scores on all three measures of hostility than other boys and girls, and girls of this age had higher scores for use of dramatic play hostility, but not the other two measures, than other girls.

The excessive hostility and the failure of preschool behavior to relate to home experiences that related to such behavior in older and younger children suggests that the children in this age year, particularly boys, were in the throes of some big problem. But what was their problem? This investigation cannot answer that question. The specific age differences in relations suggest some limitations of its area, and give some support to Freud's Oedipus and Electra complexes as possible explanations.

First, this age is that suggested by Freud as the time of attempts at solution of the Oedipus and Electra complexes. This is a big enough problem to result in the behavior shown by these children.

Second, the age differences for these children probably were cultural or developmental in origin. There were boys from this age year in all five preschool groups observed in 1957, and they were all typical examples of this age group of boys. As was mentioned in the developmental differences section, the relatively placid $5\frac{1}{2}$ - $6\frac{1}{2}$ year boys in this study had attended these preschools in the preceding year, and, by teachers' reports, had then behaved in the same way as the $4\frac{1}{2}$ - $5\frac{1}{2}$ year boys of this investigation.

Third, these children seemed to be troubled by a problem involving independence of parents. Many of the differences in relations for $4\frac{1}{2}$ - $5\frac{1}{2}$ year boys were failures to find evidence of parental influence that was demonstrated by fairly large correlations for other children. These atypical relations are best exemplified by the failure of the excessive hostility of the $4\frac{1}{2}$ - $5\frac{1}{2}$ year boys to relate to the punitive control scores of parents. Relations for dependence on teachers and for watching television suggest that the influence of other persons and situations was greater for $4\frac{1}{2}$ - $5\frac{1}{2}$ year children than for the other ages. The $4\frac{1}{2}$ - $5\frac{1}{2}$

year old showed more reality hostility to peers as dependence on teachers increased. They engaged in more conversation with peers and showed more dramatic play hostility when they had learned about more dramatic play topics through television. Neither of these relations existed for older or younger children.

Fourth, the problem included relations with both parents for boys. The lack of relations between punitive control scores and $4\frac{1}{2}$ - $5\frac{1}{2}$ year boys' use of reality hostility was found for both mothers' and fathers' scores. The failure at this age to find positive relations between the percentages of dramatic play topics checked for home information sources occurred for both information sources: talk with father and talk with mother. The inclusion of both parents in the problem does not conflict with Freud's hypotheses if they are interpreted to mean that rejection of both parents is a prerequisite for identification with the father.

The behavior reported here for $4\frac{1}{2}$ - $5\frac{1}{2}$ year children needs replication and identification in other investigations to determine the problem of this age group and its meaning. The many differences warrant suggesting that this age year and the years on either side be included in studies of social behavior of preschool children until such time as more definitive evidence is available. According to the evidence of this study the inclusion of other ages is particularly important for investigations of children's hostility to peers and dependence on teachers. The evidence suggests also a need for caution in generalizing findings obtained for this age year to the other preschool years.

This study has provided both new and corroborative evidence about children's dependence on adults other than parents, a characteristic that has been given fairly extensive research and theoretical exploration in the past 15 years. Dependence of children was shown to be a characteristic so closely associated with small age differences as to suggest that age needs more careful control in the study of dependence than has been given in earlier studies.

A hypothesis about a home cause of preschool children's dependence on teachers

was elaborated and given its first research test in this investigation. It was strongly supported by relations obtained in life situations. Correlations for behavior in life situations cannot demonstrate that a proposed cause is such in fact, but they justify devising experimental tests of these relations. The "cure" aspects of this hypothesized cause, a lack of home experience with many dramatic play topics of the preschool group, can be given experimental tests similar to those devised by Gewirtz, (1954) and Hartup (1958) for another hypothesized cause of dependence, suppression and deprivation.

Sex differences obtained in relations between measures of dependence and PARI scores agree with findings and hypotheses of others (McCandless et al., 1961; Sears et al., 1953) that parent behavior may relate differently to dependence of boys and girls. The sex differences in relations represent two explanations advanced for dependence: (a) that suppression and deprivation foster dependence, as was found here for girls in relations with parents' suppression and punitive control scores; and (b) that extremely gratifying parents may develop habits of dependence in their children (Crandall et al., 1960; McCandless et al., 1961), as was found here for boys in relations with mothers' overpossessiveness scores.

Relations demonstrated in this research contribute new knowledge about factors affecting social acceptance among preschool children, although this was not a purpose of the investigation. Parents' attitudes were shown to be factors relating to the sociometric choice of their sons and daughters by other children at preschool that did not, at the same time, relate to the number of their child's friendly interactions with peers. This finding is the first evidence, aside from sex differences, to account for the discrepancy between children's sociometric scores and their observed participation with peers that has been reported by all investigators (Marshall, 1960). The relations indicated that girls who were encouraged to express ideas freely at home were more popular among peers. For boys, however, popularity among peers was greater when parents believed that some restraints should be

placed on their expression of ideas. The frequency of children's use of dramatic play language and hostility was shown to be as good a predictor of children's sociometric scores as the number of their friendly interactions with peers, and this was, of course, a completely new finding. Also new was the finding that the frequency of children's talk as themselves did not relate to their sociometric scores. This investigation verified an earlier report (Marshall & McCandless, 1957b) that children do not base their likes and dislikes on the hostility displayed by peers, but placed some limits on this generalization. It was found to apply to all types of hostility for girls, but to be limited for boys to the hostility they displayed in their own behalf. Boys apparently had to show hostility in carrying out the roles of dramatic play to be popular.

The children of this investigation were younger than those used as subjects in most investigations of the effects of television. The two measures of their use of television entered into more relations with their behavior than comparable measures for use of books and records. The findings suggest, however, that television is not a major influence on preschool children's behavior with age peers, and hence, agree with the findings of a study of 10-14 year old children in England (Himmelweit, Oppenheim, & Vance, 1958). Its possible influence on these young children appeared to be in desired rather than in undesirable directions: e.g., the measures related positively to children's vocabulary age, and negatively to their use of reality hostility and their dependence on teachers. Relations for these children, then, were not in line with suppositions that children will show more undesirable behavior as their exposure to available programs on television increases.

SUMMARY

This investigation explored relations between children's behavior with peers and teachers at preschool and several aspects of home experience. Subjects were 108 children, aged $2\frac{1}{2}$ - $6\frac{1}{2}$ years, 101 of their mothers, and 101 of their fathers. Families

were within upper levels of socioeconomic status.

The social behavior measures that related most frequently to home experiences were observation measures developed in this investigation for two classifications of children's use of language and hostility with peers at preschool: use of language and hostility to carry out the roles of dramatic play, and use of language and hostility in reality talk and play as themselves. Language and hostility measures within each classification were positively related, and either no relations or negative relations were found between these classifications.

The difference in meaning of the dramatic play and reality classifications of children's use of language and hostility with peers is shown in the following lists of relations for both classifications. The frequency of children's use of dramatic play language and hostility with peers:

1. Was reliable over time (r 's from .76 to .96)
2. Increased with age
3. Was greater for boys
4. Increased as social acceptance in the group increased
5. Increased as the number of friendly interactions with other children increased
6. Increased as home experiences with the dramatic play topics of the preschool group increased
7. Decreased as children spent more time talking with adults at home
8. Increased for boys and decreased for girls as fathers, but not mothers, agreed more strongly with PARI scales emphasizing suppression and punitive control of children
9. Decreased as fathers, but not mothers, agreed more with the PARI scale of Overpossessiveness
10. Decreased for boys, and did not change for girls as dependence on teachers at preschool increased

In contrast, the frequency of children's use of reality language and hostility with peers:

1. Changed greatly over time (r 's from .04 to .55)

2. Did not change as age increased
3. Did not differ for the two sexes, except that hostility was used more by boys
4. Did not relate to social acceptance in the group
5. Did not relate to number of friendly interactions with other children, except in a few instances for girls
6. Either decreased or did not change as home experiences with the dramatic play topics of the preschool group increased
7. Increased as children spent more time talking with the maid at home
8. Increased as either parent agreed more with PARI scales emphasizing suppression and punitive control of children (use of reality hostility increased markedly as both parents agreed more with the scales)
9. Either increased or did not change as parents agreed more with the PARI scale of Overpossessiveness
10. Increased (excepting hostility) as dependence on teachers at preschool increased

These relations suggest that children's frequent use of dramatic play language and hostility with peers: (a) is essential to getting along with age peers at preschool, (b) is desirable behavior for children, and (c) depends upon wide informational experience for the children at home and upon their parents' attitudes about suppression, punitive control, and overpossessiveness. They suggest also that children's frequent use of reality language and hostility with peers: (a) is not essential to getting along with peers at preschool; and (b) indicates difficulties at home for the child, such as punitive, demanding, suppressive, or overpossessive parents, or too much time spent in talk with a maid.

It was concluded from relations within, between, and for the dramatic play and reality classifications that these classifications were different variables of children's social behavior. Because these classifications and their relations have not been described previously, and because neither classification related to the vocabulary age of the child (from a test in the area of language development that has been well explored), it was

concluded also that these two classifications were "new" variables.

Measures combining these two classifications, such as the number of friendly or hostile interactions with other children, and the measures of all aggression, submission, and dominance, did not relate to as many aspects of experience. The size and direction of relations for the combined scores were those to be expected from: (a) the opposing relations found for dramatic play and reality measures, (b) the relative proportions of dramatic play and reality measures in the combined measure, or (c) a difference in the variability of the dramatic play and reality measures in the combined measure.

The two aspects of home experience that related closely to many aspects of children's preschool behavior and to other aspects of home experience were: experiences that provided information about the dramatic play topics of the preschool group, and parents' scores on four composite scales of the PARI.

As children were given information about more dramatic play topics of the preschool group from eight home sources of information:

1. Their use of dramatic play language and hostility with peers increased.
2. The number of their social interactions with peers increased.
3. Their social acceptance in the group increased.
4. Their dependence on teachers decreased.
5. Their use of reality language and hostility either decreased or did not change.
6. The vocabulary age of boys, but not of girls, increased.
7. Parents of girls, but not of boys, disagreed more with the suppression and punitive scales of the PARI.
8. Younger children's mothers disagreed more, while older children's mothers disagreed less with the Overpossessiveness scale of the PARI.

Opportunities to learn about more dramatic play topics through talk with parents and other adults important to the child had

the largest correlations with measures of children's behavior. It was concluded that if parents and adults talk with the preschool child about more of the topics the child can use in play with other children, the child will talk about and play these topics more frequently with preschool peers, and will have a better chance of social acceptance in the preschool group.

As parents, particularly fathers, agreed more (or disagreed less, the more accurate description for these parents) with the suppression and punitive control scales of the PARI:

1. Their children more frequently showed reality hostility to peers, and, to a lesser extent, hostile interactions with peers increased, and sons' use of dramatic play hostility increased.
2. Their sons' aggression scores on a doll play test of frustration increased, and this relation was found also for girls' and mothers' scores.
3. Their daughters' popularity in the preschool group decreased, but their sons' popularity increased.
4. Their daughters less frequently used dramatic play language, but this use of language increased for sons.
5. Their children more frequently used reality language with peers.
6. Their daughters, but not sons, showed increasing dependence on teachers.
7. Their daughters' home experiences with dramatic play topics decreased, but these experiences either increased or did not change for sons.
8. Their years of education beyond high school decreased.

Relations for parents' scores on the Overpossessiveness scale of the PARI differed with the age and sex of the child and with the sex of the parent. As fathers, but not mothers, agreed more with this scale, their children's use of dramatic play hostility decreased, and the number of boys' hostile interactions with peers decreased. As mothers, but not fathers, agreed more with this scale, younger boys showed more dependence on teachers while older boys showed less dependence, and younger children and

all boys had fewer opportunities to learn about dramatic play topics from talk with both parents.

Minor differences in parents' PARI scores, particularly fathers' scores, were associated with large differences in children's behavior. It was concluded that parents' attitudes affect both desired and undesired aspects of their child's behavior with peers.

The time family members spent in talk with the child seldom related to children's behavior or to other aspects of home experience. However, as children spent more time in talk with the maid at home, their use of reality language with peers increased, their use of dramatic play language and hostility decreased, and their dependence on teachers increased.

The time children spent at home listening to stories and records and watching television seldom related to their behavior at preschool.

Few differences in child behavior and home experience were associated with differences in years of education of parents; this was described as probably due to the control of socioeconomic status in this investigation.

Relations for measures of children's dependence on teachers provided strong support for a hypothesis about preschool dependence not previously tested in research: when children have too few experiences at home that provide the techniques and interests required for participation in play with peers, they will often fail in their efforts to play, and, as a consequence, will show excessive dependence on teachers. As the children in this investigation had fewer home experiences with the dramatic play topics of their preschool group, they had fewer interactions with peers, and they showed more dependence on teachers at preschool. Age differences in some relations suggested that this hypothesis may explain more instances of excessive dependence during the years from $2\frac{1}{2}$ to $4\frac{1}{2}$, when dependence is at a high level for all children, than during the later preschool years when most children are relatively independent of teachers.

Relations for dependence measures also provided some support for hypotheses that suppression and deprivation, and overpossessive and gratifying parents motivate the child to seek dependence on teachers and, as a consequence, the child lacks motivation and skill for interaction with peers. There were sex of child differences in relations supporting the two hypothesized causes of dependence motivation. Girls showed more dependence on teachers when their fathers had higher scores on PARI scales for suppression. Younger boys showed more dependence when mothers agreed more with the PARI Overpossessiveness scale, and older boys showed more dependence when they had the gratification of more time spent talking with fathers at home.

Two test scores of these children failed to relate to most of the preschool and home experience measures of this investigation. Children's vocabulary age on the Stanford-Binet Vocabulary test did not relate to children's use of language with peers, or to most other child behavior and home experiences. Children's aggression scores on a test of frustration failed to relate to their observed hostility to peers and to any home experiences other than the punitive control scores of the PARI. It was concluded that these test scores estimate different child behavior than that observed with peers at preschool in this investigation.

Age and sex differences seldom occurred in relations between the measures of social behavior with peers for these children aged $2\frac{1}{2}$ - $6\frac{1}{2}$ years. As the summaries indicate, sex differences were frequent in relations between these measures and estimates of home experiences, and in relations for dependence on teachers. Age differences in these two types of relations also were found frequently. In relations for home experiences, $4\frac{1}{2}$ - $5\frac{1}{2}$ year boys often differed from boys and girls of other ages. Age differences in relations for dependence on teachers were found for two different divisions of these preschool years: (a) children younger than $4\frac{1}{2}$ years and children older than $4\frac{1}{2}$ years, and (b) $4\frac{1}{2}$ - $5\frac{1}{2}$ year children and children in all other age groups.

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APPENDIX A

QUESTIONS ON EXPOSURE TO IDEAS IN PLAY FOR PARENTS

1. What activities does your child watch you do at home?
 - a. Elsewhere?
 - b. Do you talk about what you are doing to the child as you do it?
 - c. Does your child hear you talk about these activities:
 - To other family members? _____
 - Over the telephone? _____
 - To visitors? _____
2. Does your child share your meals and conversation?
 - If so, is much of the talk "over his head"?
3. Do you have a regular special time devoted to talking with your child, such as just after stories every day, or before bedtime, etc.?
4. About how much time each day do you usually spend conversing with the child (during the week)?
 - Do you spend more time conversing with him on weekends?
 - How much more time?
5. Does anyone working in your home, such as a maid, talk with him (her) while doing their work?
 - About how much time do they spend talking with the child (daily) _____
 - (weekly) _____
6. Are there older brothers (_____) or sisters (_____) who talk with him (her)?
 - About how much time do they talk each day? (Each)
7. a. Do you read to the child, usually every-day? _____ For how long? _____
 - b. Does he (she) listen to records? _____
 - How often? _____ About how long each time? _____
 - c. Does he (she) watch TV or listen to radio (underline which)?
 - How often? _____
 - How long each time? _____
 - Are there any regular programs?
 - d. Has the child seen any movies (other than on TV)? _____ What? _____
8. Through which of all the above possibilities (give card to parent) has your child been exposed to these concepts used before Christmas by the children in their make-believe play?
 - (Check answers on other sheets)
 - (After Question 8)
9. Are these people, activities and things the same as those your child seems interested at home?
 - Do these seem not too interesting at home? _____
10. Are the omissions from the list of play that you would have expected to be included because your child uses them so much in make-believe play at home? _____
 - Or in conversation? _____
11. What are your child's favorite topics when he (she) talks with you?
12. Are you trying to interest your child in some particular activities or people?

BEREA COLLEGE NURSERY SCHOOL DRAMATIC PLAY IDEAS

	Talk with you	Books	TV or radio	Movies	Records	Personal experi- ence	Talk of other adults	Talk of other children
Policemen-bankrobbers								
Doctor-nurse-patient								
Cowboy-cowgirl								
Indians								
Badmen								
Roy Rogers and Trigger								
Island in an ocean								
Tunnel in a mountain								
Building road for trucks								
Building a castle, bridge								
Trains								
Airplanes and airport								
Putting on a play								
Fixing cars in a garage								
Painting a house								
Grocery store								
Hiding in a cave								
Witches								
Driving tractor—farm or garden								
Make a little creek								
Dynamite—firecrackers								
Take animals to zoo								
House on fire—fireman								
Animals—growl and crawl								
Big bad wolf blows house down								
Tigers								
Lions								
Hound dogs								
Infant care								

